JUNE 2017

A DATA BOOK

Health Care Spending and the Medicare Program

MEDPAC Medicare Payment Advisory Commission

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Introduction

The MedPAC Data Book provides information on national health care and Medicare spending as well as Medicare beneficiary demographics, dual-eligible beneficiaries, quality of care in the Medicare program, and Medicare beneficiary and other payer liability. It also examines provider settings—such as hospitals and post-acute care—and presents data on Medicare spending, beneficiaries' access to care in the setting (measured by the number of beneficiaries using the service, number of providers, volume of services, length of stay, or through direct surveys), and the sector's Medicare profit margins, if applicable. In addition, it covers the Medicare Advantage program and prescription drug coverage for Medicare beneficiaries, including Part D.

MedPAC began producing its annual Data Book at the suggestion of congressional staff. Some of the information it contains is derived from MedPAC's March and June reports to the Congress; other information presented is unique to the Data Book. The information is presented through tables and figures with brief discussions.

We produce a limited number of printed copies of this report. It is, however, available through the MedPAC website: www.medpac.gov.

Notes on data

Several charts in this Data Book use data from the Medicare Current Beneficiary Survey (MCBS). We use the MCBS to compare beneficiary groups with different characteristics. The MCBS is a survey, so expenditure amounts that we show may not match actual Medicare expenditure amounts from CMS's program offices or the Office of the Actuary.

Changes in aggregate spending among the fee-for-service sectors presented in this Data Book reflect changes in Medicare enrollment between the traditional fee-for-service program and Medicare Advantage. Increased enrollment in Medicare Advantage may be a significant factor in instances in which Medicare spending in a given sector has leveled off or even declined. In these instances, fee-for-service spending per capita may present a more complete picture of spending changes. We present both measures (aggregate and per capita) where warranted.

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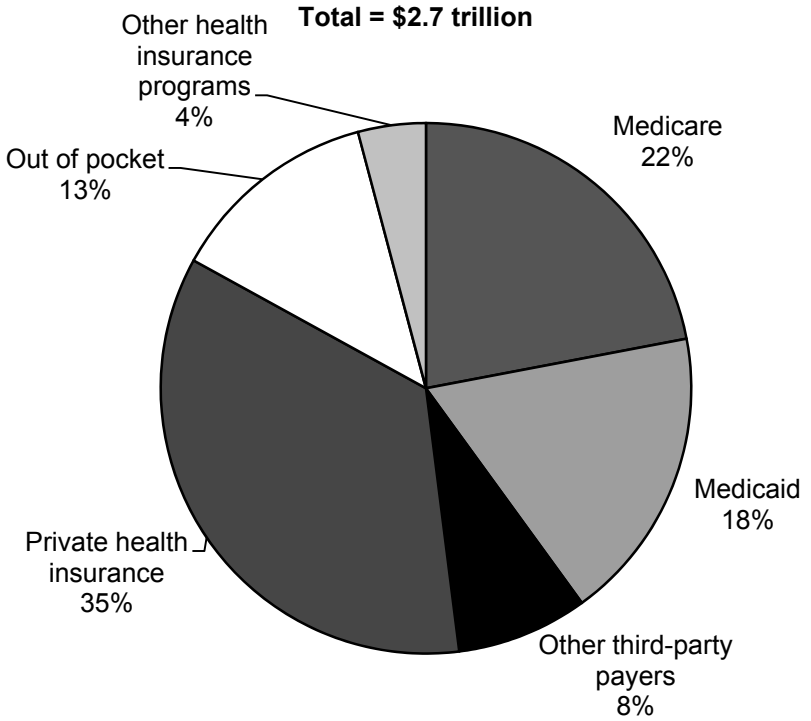
SECTION 1

National health care and Medicare spending

Chart 1-1. Medicare was the largest single purchaser of personal health care, 2015



Note: "Personal health care" is a subset of national health expenditures. It includes spending for all medical goods and services that are provided for the treatment of an individual and excludes other spending such as government administration, the net cost of health insurance, public health, and investment. "Out-of-pocket" spending includes cost sharing for both privately and publicly insured individuals. Premiums are included in the shares of each program (e.g., Medicare, private health insurance) rather than in the share of the out-of-pocket category. "Other health insurance programs" includes the Children's Health Insurance Program, Department of Defense, and Department of Veterans Affairs. "Other third-party payers" includes worksite health care, other private revenues, Indian Health Service, workers' compensation, general assistance, maternal and child health, vocational rehabilitation, other federal programs, Substance Abuse and Mental Health Services Administration, other state and local programs, and school health.

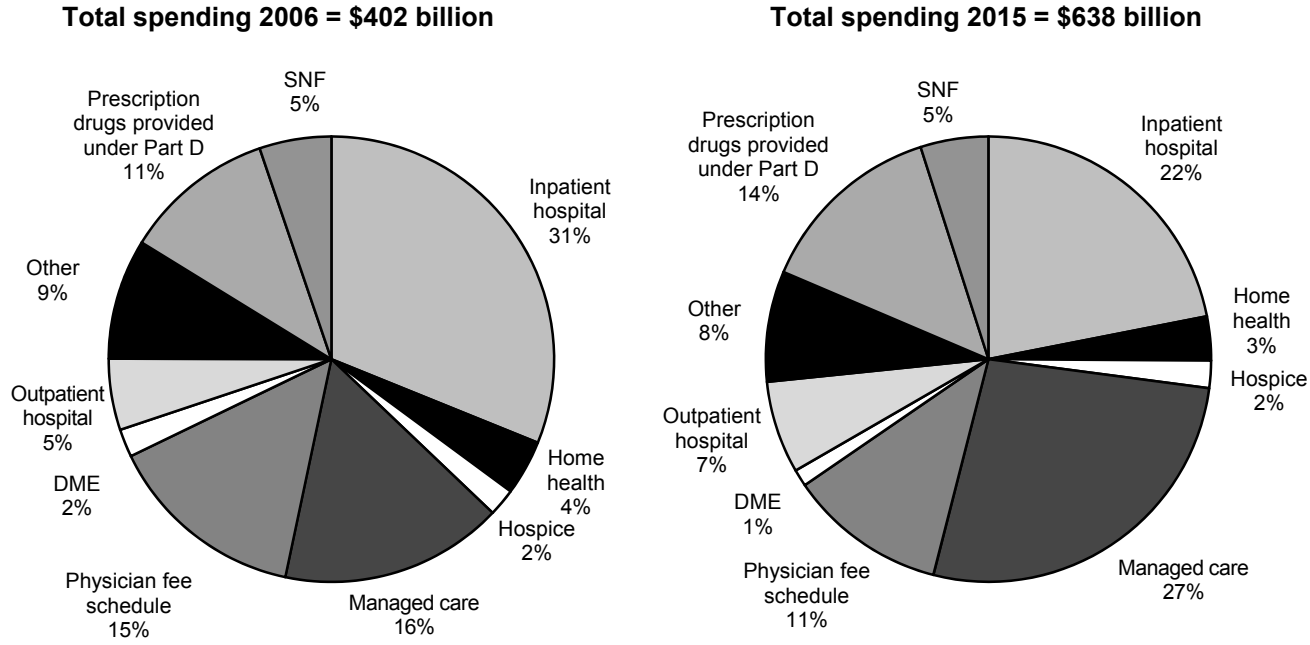
Source: CMS Office of the Actuary, National Health Expenditure Accounts, "Table 6: Personal Health Care Expenditures; Levels, Percent Change and Percent Distribution, by Source of Funds: Selected Calendar Years 1970–2015," released December 2016.

- Medicare is the largest single purchaser of health care in the United States. (The share of spending accounted for by private health insurance (35 percent in 2015) is greater than Medicare's share (22 percent in 2015). However, private health insurance is not a single purchaser of health care; rather, it includes many private plans, including traditional managed care, self-insured health plans, and indemnity plans.) Of the $2.7 trillion spent on personal health care in 2015, Medicare accounted for 22 percent, or $605 billion (as noted above, this amount includes spending on direct patient care and excludes certain administrative and business costs).

- Thirty-five percent of spending was financed through private health insurance payers, and 13 percent was from consumer out-of-pocket spending.

- Medicare and private health insurance spending includes premium contributions from enrollees.

Chart 1-2. Medicare spending is concentrated in certain services and has shifted over time

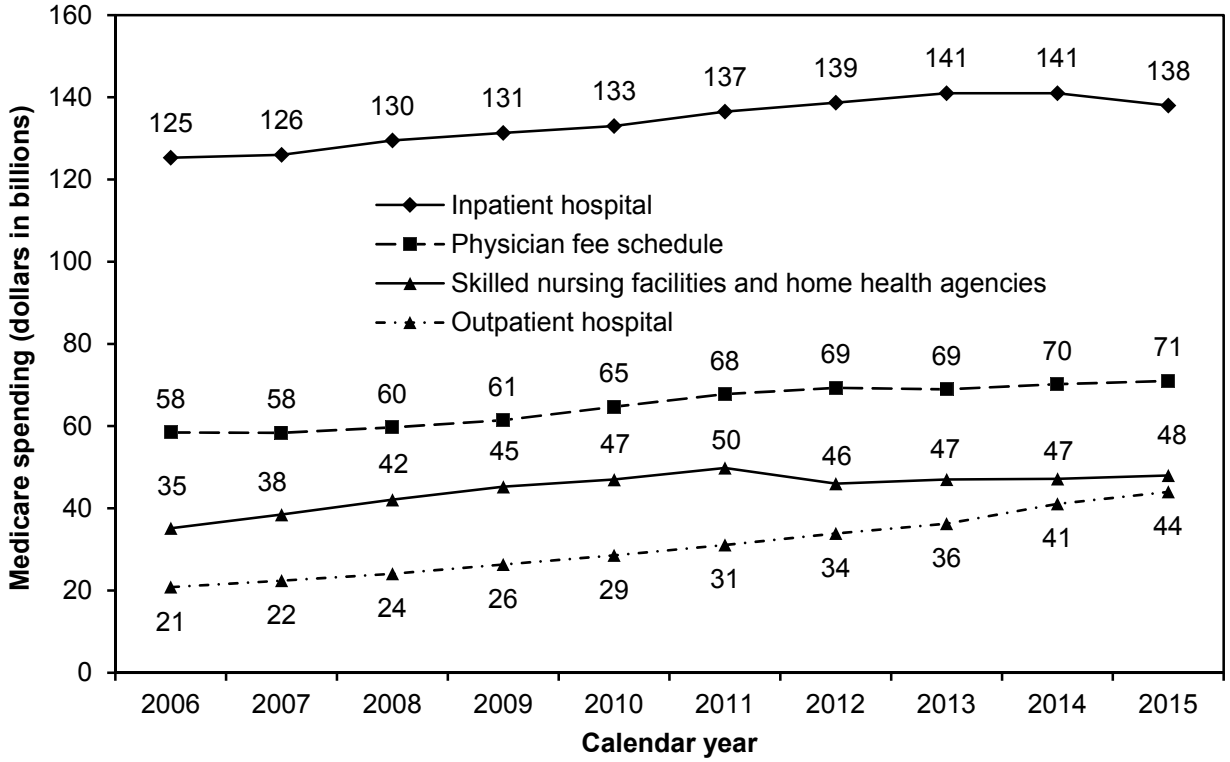


Note: SNF (skilled nursing facility), DME (durable medical equipment). All data are by calendar year. Dollar amounts are Medicare spending only and do not include beneficiary cost sharing. "Other" includes items such as laboratory services, physician-administered drugs, renal dialysis performed in freestanding dialysis facilities, services provided in freestanding ambulatory surgical center facilities, and ambulance. Totals may not sum to 100 percent due to rounding.

Source: The annual report of the Boards of Trustees of the Medicare trust funds 2016.

- The distribution of Medicare spending among services has changed over time.
- In 2015, Medicare spending totaled $638 billion for benefit expenses. Managed care was the largest spending category (27 percent), followed by inpatient hospital services (22 percent), prescription drugs provided under Part D (14 percent), and services reimbursed under the physician fee schedule (11 percent).
- Spending for inpatient hospital services was a smaller share of total Medicare spending in 2015 than it was in 2006, falling from 31 percent to 22 percent. Spending on beneficiaries enrolled in managed care plans grew from 16 percent to 27 percent over the same period. Medicare managed care enrollment increased 140 percent over the same period (data not shown).

Chart 1-3. Aggregate Medicare spending for FFS beneficiaries, by sector, 2006–2015



Note: FFS (fee-for-service). "Physician fee schedule" includes spending on services provided by physicians and other health professionals such as nurse practitioners, physician assistants, and physical therapists. Dollar amounts are Medicare spending only and do not include beneficiary cost sharing. Spending for Medicare Advantage enrollees is also not included.

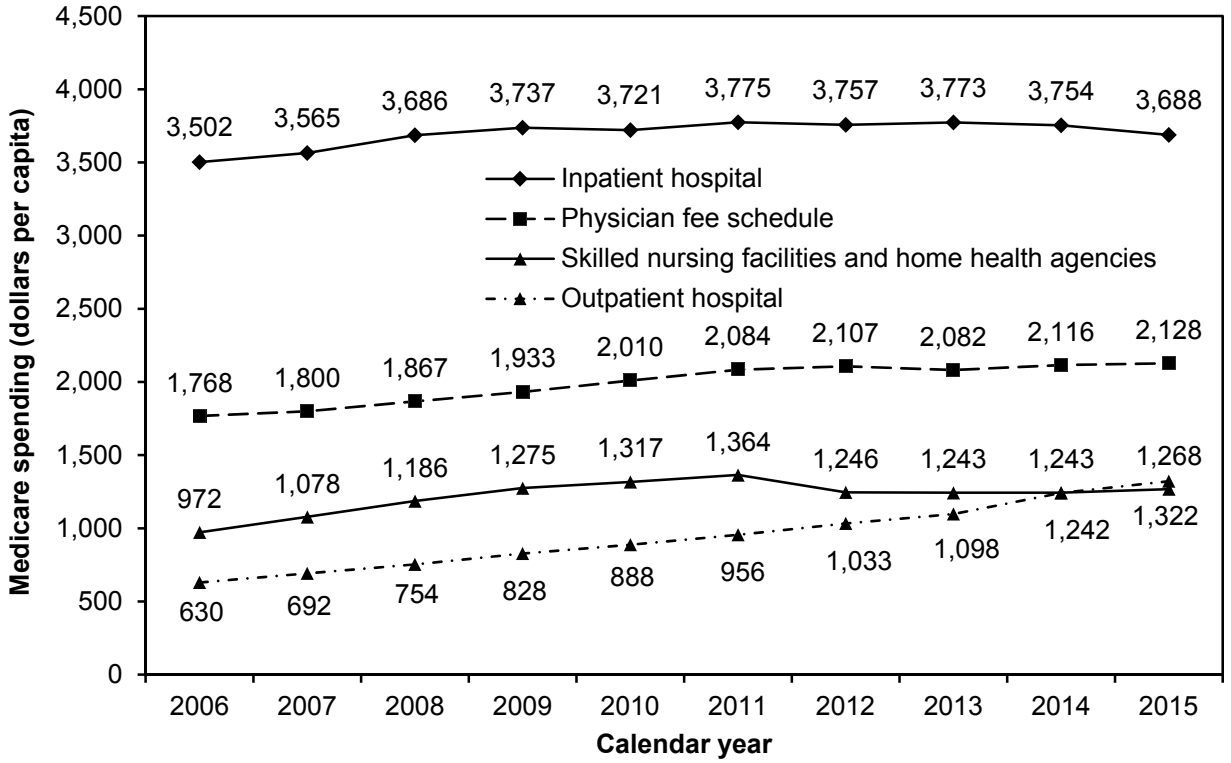
Source: The annual report of the Boards of Trustees of the Medicare trust funds 2016.

- Medicare spending for FFS beneficiaries has increased significantly since 2006 across all sectors, even though spending growth has slowed recently. The slowdown is partly attributable to a decline in the growth of FFS enrollment since the number of Medicare Advantage enrollees has increased.

- Spending growth for inpatient hospital services, the sector with the highest level of spending, averaged 1.5 percent per year from 2006 to 2014. Spending then declined by 1.9 percent between 2014 and 2015 (calculated on unrounded numbers). The decline in that last year is partly attributable to a shift in service volume from the inpatient setting to the outpatient setting and to the decline in the growth of FFS enrollment, but it may also reflect broader economic conditions. Despite the slowdown, spending on inpatient hospital services increased, in aggregate, 10 percent from 2006 to 2015.

- Spending growth for outpatient hospital services remained strong throughout the period, averaging 9 percent per year from 2006 to 2015. Aggregate spending on outpatient hospital services increased 111 percent from 2006 to 2015.

Chart 1-4. Per capita Medicare spending for FFS beneficiaries, by sector, 2006–2015



Note: FFS (fee-for-service). "Physician fee schedule" includes spending on services provided by physicians and other health professionals such as nurse practitioners, physician assistants, and physical therapists. Dollar amounts are Medicare spending only and do not include beneficiary cost sharing. Spending for Medicare Advantage enrollees is also not included. Spending per beneficiary for inpatient hospital services equals spending for the sector (see Chart 1-3) divided by FFS enrollment in Part A. Spending per beneficiary for physician fee schedule services and outpatient hospital services equals spending for the sector (see Chart 1-3) divided by FFS enrollment in Part B. Spending per beneficiary for skilled nursing facilities and home health agencies equals spending for those sectors (see Chart 1-3) divided by total FFS enrollment.

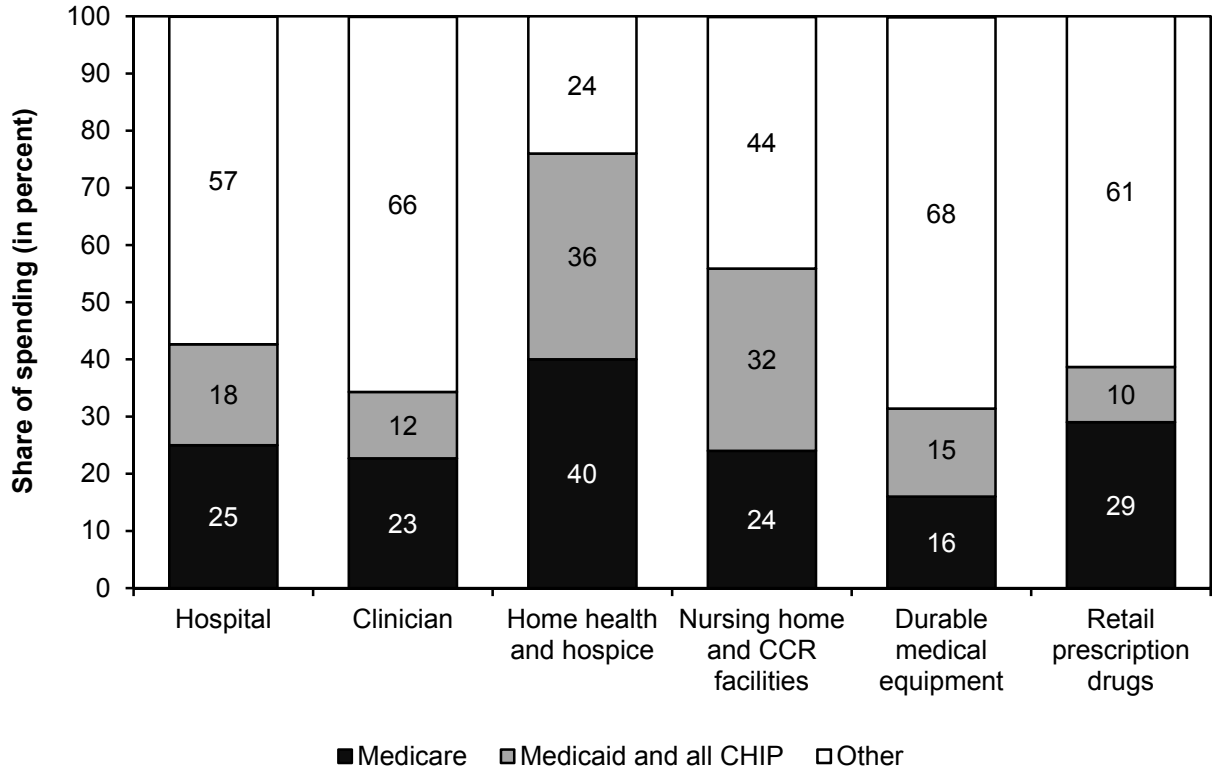
Source: The annual report of the Boards of Trustees of the Medicare trust funds 2016.

- Medicare spending per beneficiary in FFS Medicare has increased substantially since 2006 across all sectors, despite slowing down or declining recently in some sectors.

- Growth in spending per beneficiary for inpatient hospital services, the sector with the highest level of spending, averaged 2 percent per year from 2006 to 2009 and then was slightly negative from 2009 to 2016. Despite the decline in recent years, spending per beneficiary for inpatient hospital services increased, in aggregate, 5 percent from 2006 to 2015.

- Growth in spending per beneficiary for outpatient hospital services remained strong throughout the period, averaging 9 percent per year from 2006 to 2015. Spending per beneficiary for outpatient hospital services increased, in aggregate, 110 percent from 2006 to 2015.

Chart 1-5. Medicare's share of spending on personal health care varied by type of service, 2015



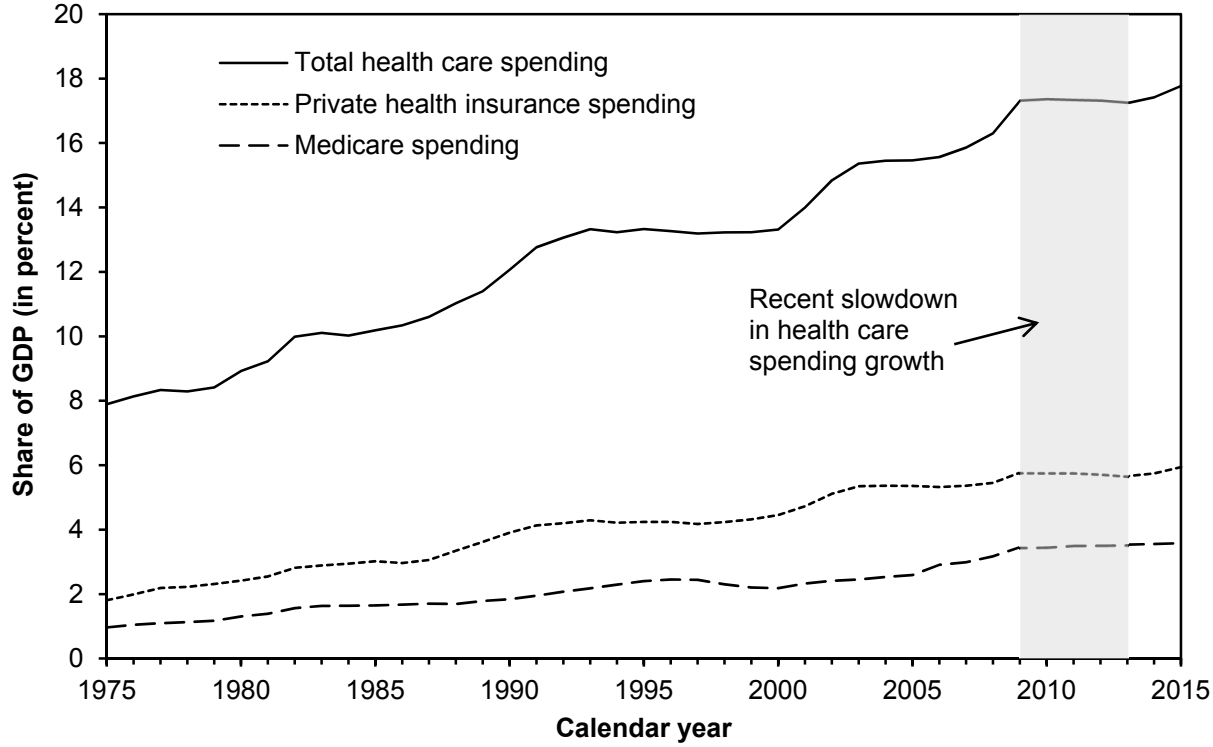
Note: CCR (continuing care retirement), CHIP (Children's Health Insurance Program). "Personal health care" is a subset of national health expenditures. It includes spending for all medical goods and services that are provided for the treatment of an individual and excludes other spending such as government administration, the net cost of health insurance, public health, and investment. "Other" includes private health insurance, out-of-pocket spending, and other private and public spending. Medicare's share of spending is lower for other service categories included in personal health care that are not shown here, namely, other professional services; dental services; other health, residential, and personal care; and other nondurable medical equipment. Bars may not total 100 percent because of rounding.

Source: CMS Office of the Actuary, National Health Expenditure Accounts, "Table 19: National Health Expenditures by Type of Expenditure and Program: Calendar Year 2015," released December 2016.

- While Medicare's share of total personal health care spending was 22 percent in 2015 (see Chart 1-1), its share of spending by type of service varied, with a slightly higher share of spending on hospital care (25 percent) and retail prescription drugs (29 percent) and a much higher share of spending on home health and hospice services (40 percent).

- Medicare's share of spending on nursing homes and CCR facilities was smaller than Medicaid's share because Medicare pays for nursing home services only for Medicare beneficiaries who require skilled nursing or rehabilitation services, whereas Medicaid pays for custodial care (assistance with activities of daily living) provided in nursing homes for people with limited income and assets.

Chart 1-6. Historically, health care spending has risen as a share of GDP



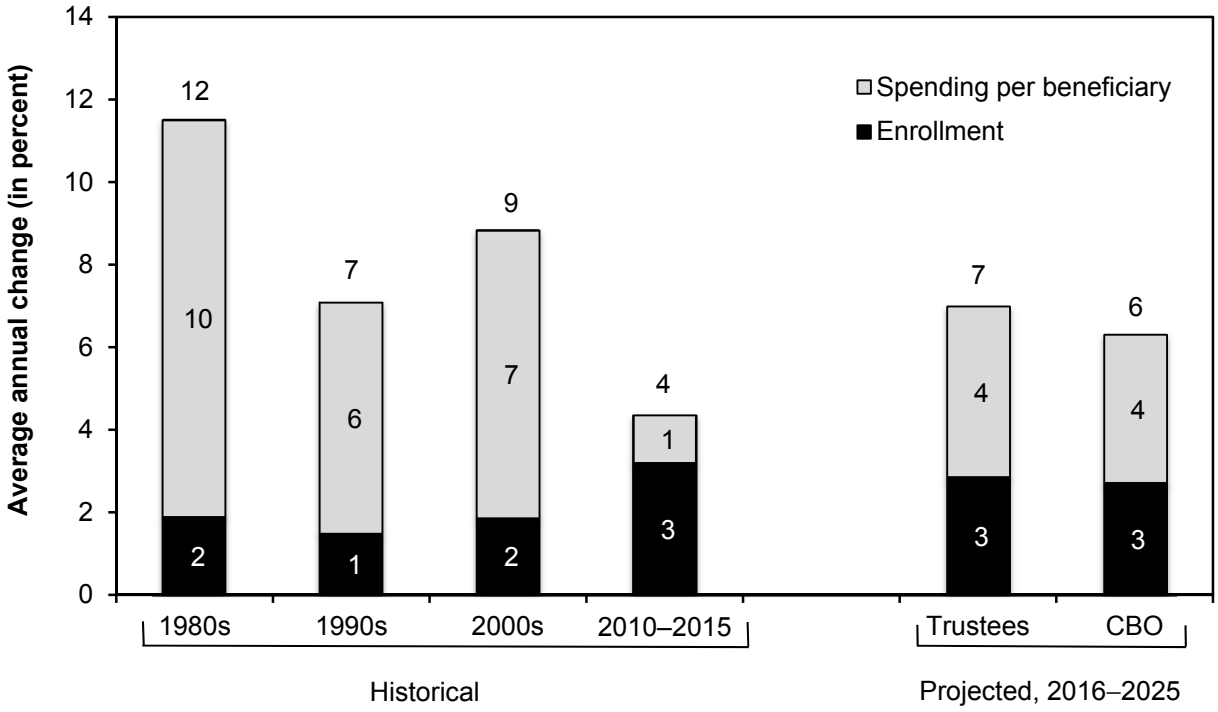
Note: GDP (gross domestic product).

Source: CMS Office of the Actuary, National Health Expenditure Accounts 2015.

- Historically, health care spending has risen as a share of GDP, but recently its growth rate had slowed. That general trend was true for health care spending by private sector payers as well as by Medicare. As shown in the chart above, health care spending as a share of GDP remained relatively constant between 2009 and 2013.

- As a share of GDP, total health care spending more than doubled from 1975 to 2015, increasing from 7.9 percent to 17.8 percent. Both private health insurance spending and Medicare spending more than tripled over that same time period, increasing from 1.8 percent to 5.9 percent and from 1.0 percent to 3.6 percent, respectively, as a share of GDP.

Chart 1-7. Despite recent slowdown in per beneficiary spending growth, total Medicare spending growth rate is projected to rise

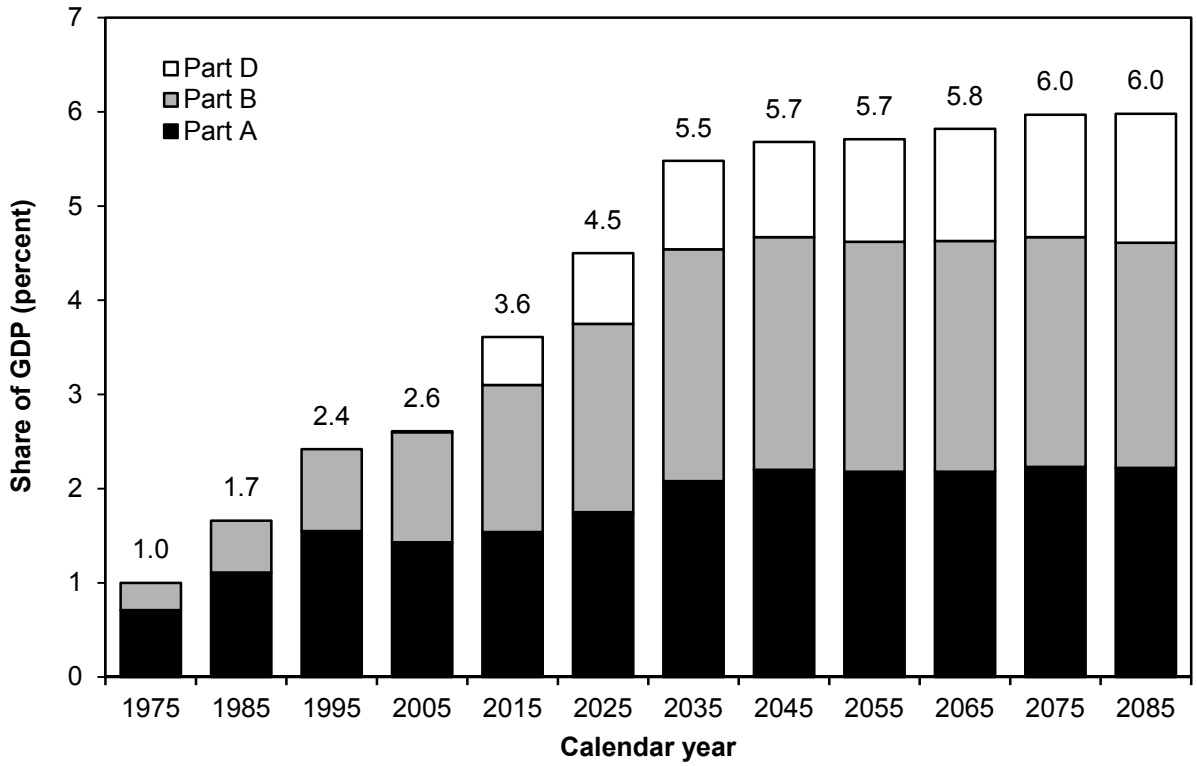


Note: CBO (Congressional Budget Office). Bar totals reflect average annual change in total Medicare spending and may differ from the sum of annual change in spending per beneficiary and Medicare enrollment due to rounding.

Source: The annual report of the Boards of Trustees of the Medicare trust funds 2016 and Congressional Budget Office's 2017 Baseline.

- The growth in Medicare's per beneficiary spending has fallen from average annual rates of 10 percent in the 1980s and 6 percent and 7 percent in the 1990s and 2000s, respectively, to 1 percent between 2010 and 2015.
- For 2016 to 2025, the Trustees and CBO project that growth in per beneficiary spending will be higher than the recent lows but lower than the historical highs, with an average annual growth rate of 4 percent.
- At the same time, the aging of the baby-boom generation is causing enrollment to increase. Over the last few years, the enrollment growth rate rose from about 2 percent per year historically to 3 percent and is projected to continue growing throughout the next decade.
- So, despite the slowdown in spending per beneficiary (relative to historical standards), growth in total spending over the next decade is projected by the Trustees to average 7 percent and by CBO to average 6 percent annually, which outpaces the projected average annual GDP growth of 5 percent.

Chart 1-8. Trustees project Medicare spending to continue to increase as a share of GDP



Note: GDP (gross domestic product). Shares for 2025 and later are projections based on the Trustees' intermediate set of assumptions.

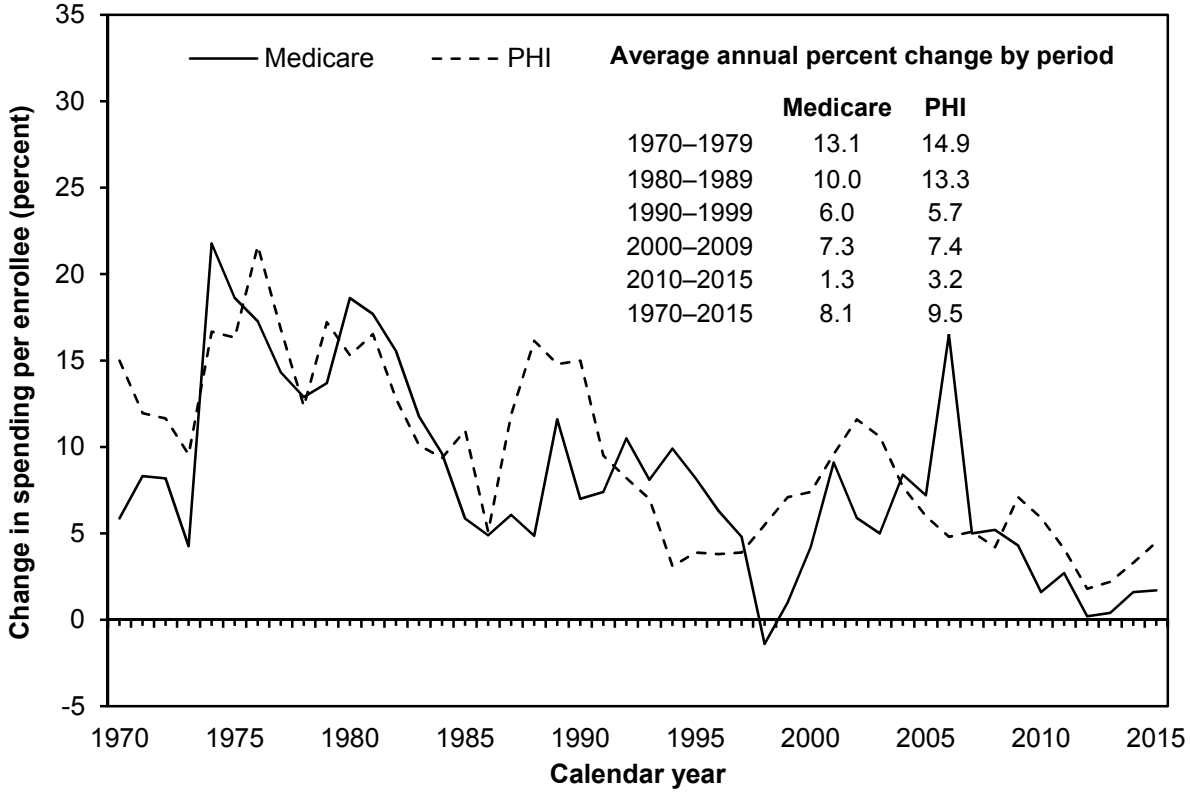
Source: The annual report of the Boards of Trustees of the Medicare trust funds 2016.

- Over time, Medicare spending has accounted for an increasing share of GDP. From 1 percent in 1975, it is projected to reach 6 percent of GDP in 2075.

- The Medicare Trustees project that spending will rise from 3.6 percent of GDP in 2015 to 5.5 percent of GDP by 2035, largely because of rapid growth in the number of beneficiaries, and then to 6.0 percent of GDP in 2075, with growth in spending per beneficiary becoming the greater factor in the later years of the forecast. The rapid growth in the number of beneficiaries began in 2011 and will continue through 2030 as members of the baby-boom generation reach age 65 and become eligible to receive benefits.

- Medicare spending is projected to continue rising as a share of GDP, but at a slower pace than in the past. Nominal Medicare spending grew on average 9.6 percent per year over the period from 1975 to 2015, considerably faster than nominal growth in the economy, which averaged 6.1 percent per year over the same time frame (data not shown). Between 2016 and 2040, Medicare spending is projected to continue growing faster than GDP, averaging 6.5 percent per year compared with an annual average growth rate of 4.6 percent for the economy as a whole. Then, between 2041 and 2085, Medicare spending is projected to grow only slightly faster than GDP, averaging 5.0 percent per year compared with an annual average growth rate of 4.9 percent for the economy as a whole (data not shown).

Chart 1-9. Changes in spending per enrollee, Medicare and private health insurance, 1970–2015



Note: PHI (private health insurance). Medicare expenditures reported in this chart include both fee-for-service and Medicare Advantage plans.

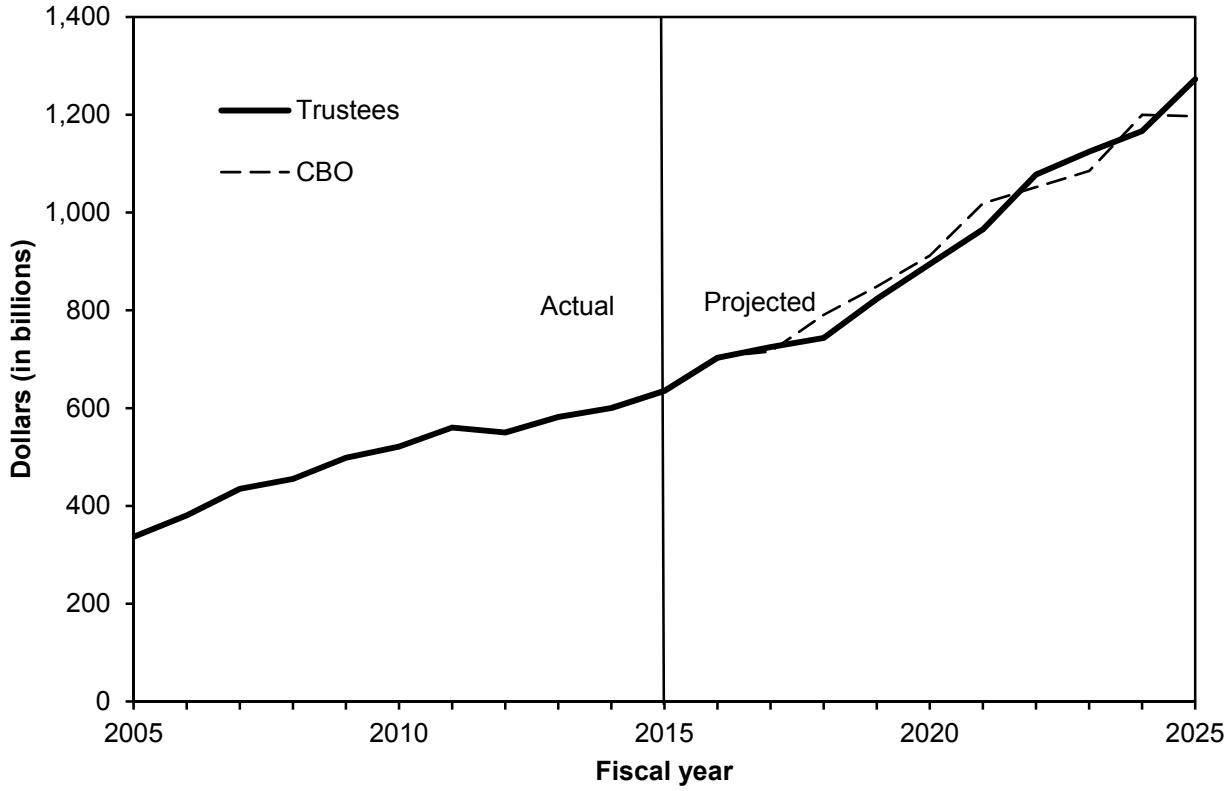
Source: CMS Office of the Actuary, National Health Expenditure Accounts 2013 and 2015.

- Rates of growth in per capita spending for Medicare and private health insurance have followed a similar pattern over the last four decades. For the past several years, rates of growth in per capita spending have slowed for both Medicare and private health insurance; however, rates are beginning to increase.

- Differences between the rates of growth do appear to be somewhat more pronounced since the mid-1980s. Some analysts believe that those differences are attributable to the introduction of the prospective payment system for hospital inpatient services that began in 1985. In their view, that payment system has allowed Medicare greater success than private payers in containing spending growth. Others maintain that the differences are due to the expansion of benefits offered by private insurers and to a decline in cost-sharing requirements. More recently, cost-sharing requirements have increased, coinciding with a decline in growth of per capita spending for private payers, followed by a period of growth.

- Comparisons are problematic because private insurers and Medicare do not buy the same mix of services and Medicare covers an older population, which tends to be more costly. In addition, spending trends are also affected by changes in the generosity of covered benefits (e.g., introduction of the Part D drug benefit in 2006) and changes in enrollees' out-of-pocket spending.

Chart 1-10. Trustees and CBO project Medicare spending to exceed $1 trillion by the early part of the next decade



Note: CBO (Congressional Budget Office). All data are nominal, mandatory outlays (benefit payments plus mandatory administrative expenses) by fiscal year.

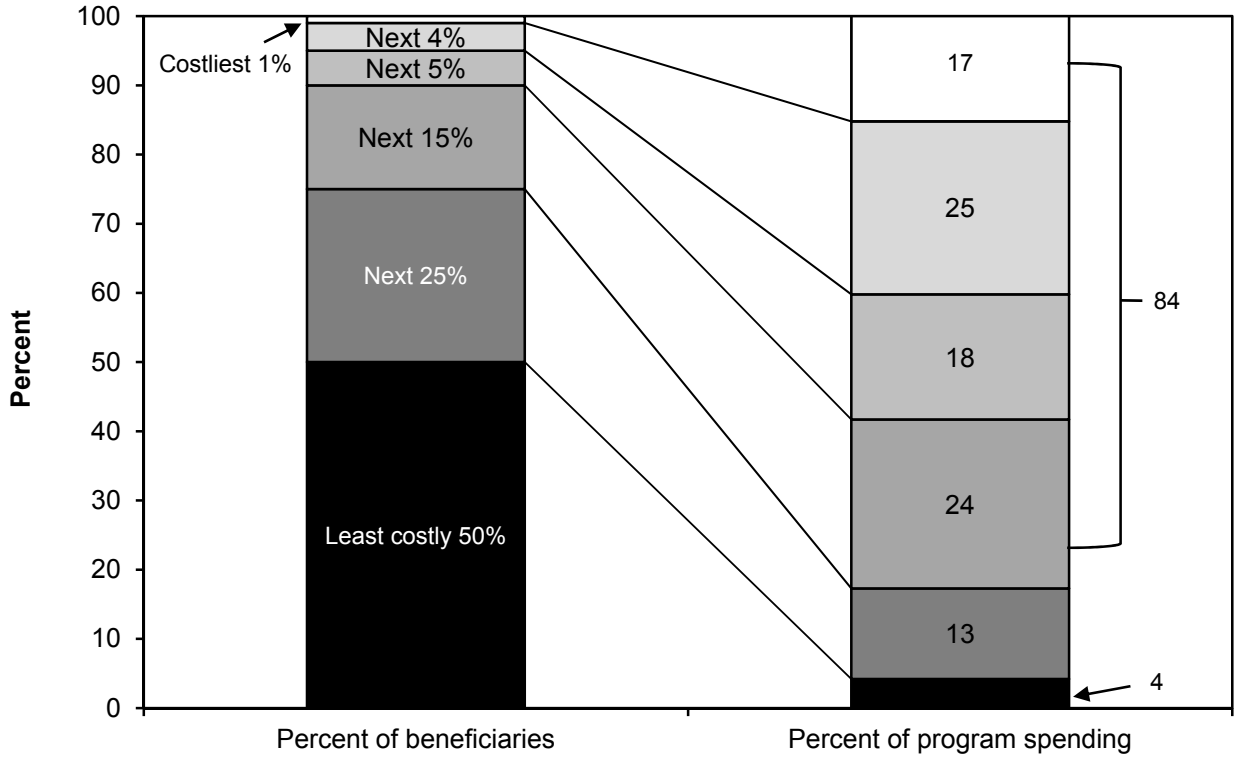
Source: Congressional Budget Office's January 2017 Baseline; the annual report of the Boards of Trustees of the Medicare trust funds 2016.

- Medicare spending has nearly doubled since 2005, increasing from $337 billion to $635 billion by 2015 (these data are by fiscal year and include benefit payments and mandatory administrative expenses).

- The Medicare Trustees and CBO project that spending for Medicare between 2016 and 2025 will grow at an average annual rate of 6.8 percent or 6.1 percent, respectively. Medicare spending will reach $1 trillion in 2022 under the Trustees' projections and in 2021 under CBO's projections.

- Forecasts of future Medicare spending are inherently uncertain, and differences can stem from different assumptions about the economy (which affect annual updates to provider payments) and about growth in the volume and intensity of services delivered to Medicare beneficiaries, among other factors.

Chart 1-11. FFS program spending was highly concentrated in a small group of beneficiaries, 2013



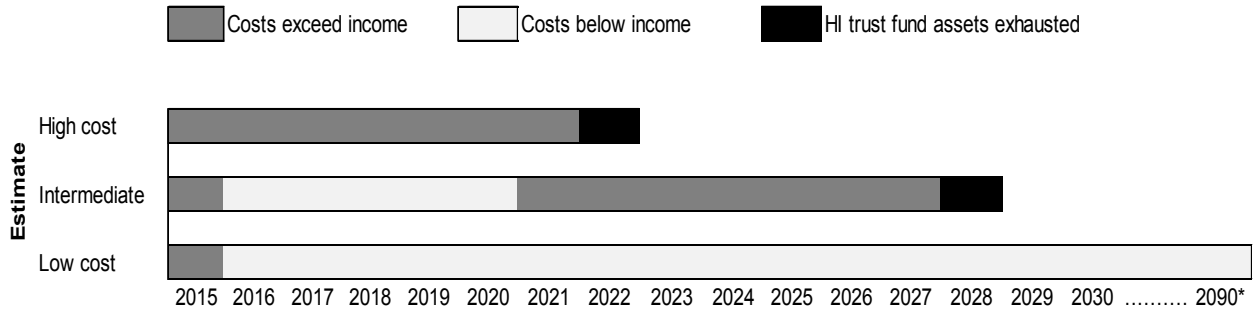
Note: FFS (fee-for-service). Analysis excludes beneficiaries with any group health enrollment during the year. Totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use files 2013.

- Medicare FFS spending is concentrated among a small number of beneficiaries. In 2013, the costliest 5 percent of beneficiaries accounted for 42 percent of annual Medicare FFS spending, and the costliest 25 percent accounted for 84 percent. By contrast, the least costly 50 percent of beneficiaries accounted for only 4 percent of FFS spending.

- Costly beneficiaries tend to include those who have multiple chronic conditions, are using inpatient hospital services, are dually eligible for Medicare and Medicaid, and are in the last year of life.

Chart 1-12. Medicare HI Trust Fund is projected to be insolvent in 2028 under Trustees' intermediate assumptions



Note: HI (Hospital Insurance). All years represent calendar years. The primary source of income for HI is the payroll tax on covered earnings. Other HI income sources include (a) a portion of the federal income taxes that Social Security recipients with incomes above certain thresholds pay on their benefits and (b) interest paid on the U.S. Treasury securities held in the HI Trust Fund.
*Under the low-cost assumption, trust fund costs would be below income beginning in 2016 and continue through the 75-year projection period.

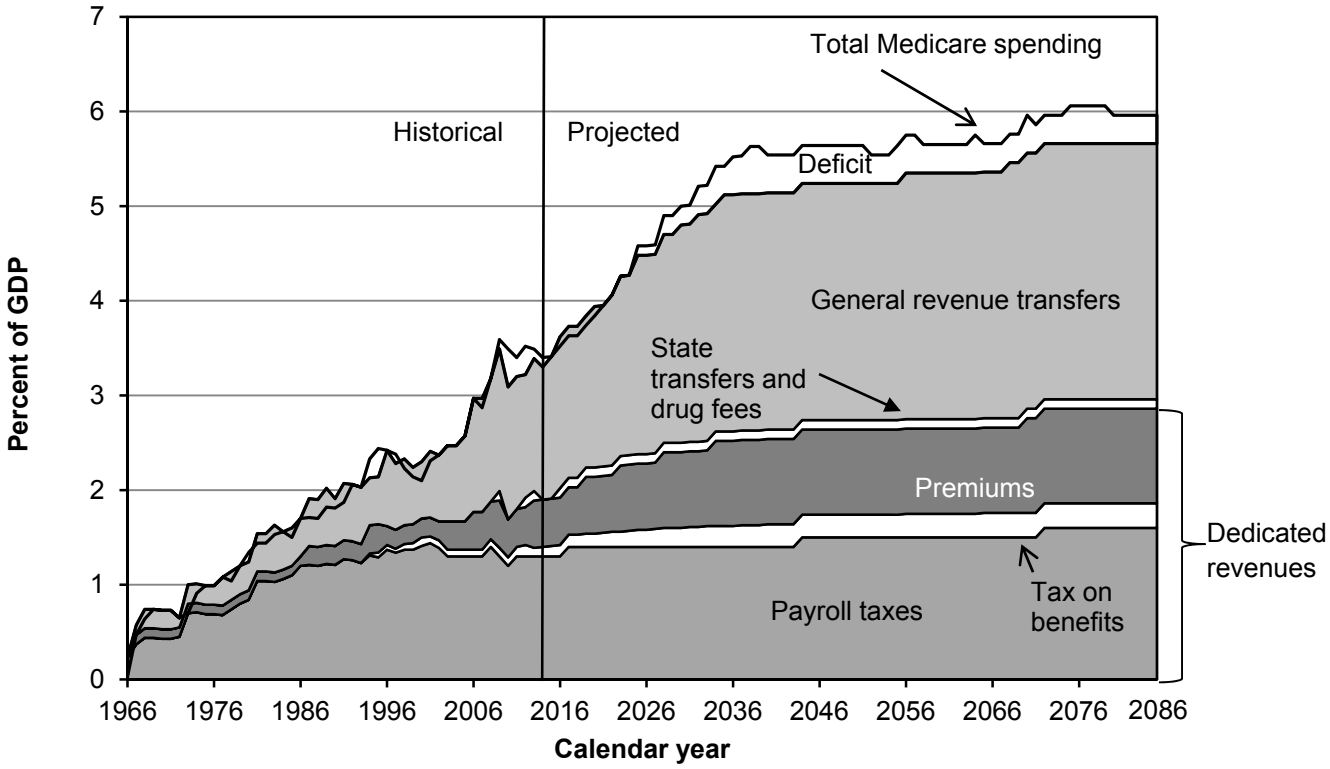
Source: The annual report of the Boards of Trustees of the Medicare trust funds 2016.

- The HI Trust Fund funds Part A, which helps pay for inpatient hospital stays and post-acute care such as skilled nursing facilities and hospice. Part A is funded through a dedicated payroll tax (i.e., a tax on wage earnings).

- Since 2008, the HI Trust Fund has run an annual deficit (i.e., paid more in benefits than it collects in payroll taxes). The trust fund still has interest income generated from loaning funds to other parts of the government during times of surplus, but those assets are projected to be exhausted by 2028 under the Trustees' intermediate assumptions. Under high-cost assumptions, the HI Trust Fund could be exhausted as early as 2022. Under low-cost assumptions, it would remain able to pay full benefits indefinitely.

- The Trustees estimate that the payroll tax would need to be immediately increased from its current rate of 2.90 percent to 3.63 percent to balance the HI Trust Fund over the next 75 years. Alternatively, Part A spending would need to be immediately reduced by 16 percent.

Chart 1-13. General revenue is paying for a growing share of Medicare spending

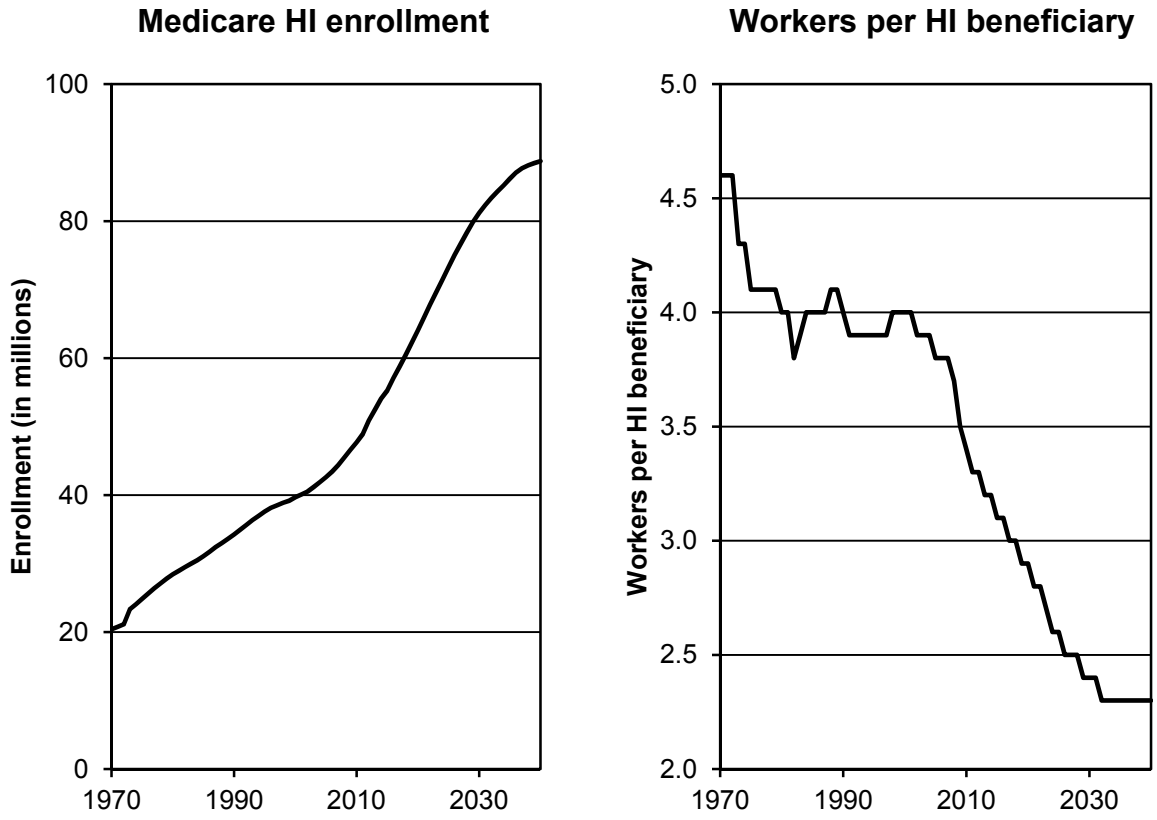


Note: GDP (gross domestic product). These projections are based on the Trustees' intermediate set of assumptions. "Tax on benefits" refers to the portion of income taxes that higher income individuals pay on Social Security benefits, which is designated for Medicare. "State transfers" (often called the Part D "clawback") refers to payments called for within the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 from the states to Medicare for assuming primary responsibility for prescription drug spending. The "drug fee" is the fee imposed in the Patient Protection and Affordable Care Act of 2010 on manufacturers and importers of brand-name prescription drugs. These fees are deposited in the Part B account of the Supplementary Medical Insurance Trust Fund.

Source: The annual report of the Boards of Trustees of the Medicare trust funds 2016.

- The Medicare Trustees project that Medicare's share of GDP will rise to 5.5 percent by 2036 and to 6.0 percent by 2075.
- Beginning in 2009, general revenue transfers became the largest single source of Medicare income. They are expected to remain a substantial share of Medicare financing, between 37 and 47 percent, throughout the 75-year budget period.
- As Medicare becomes more dependent on general revenues, fewer resources will be available to invest in growing the economic output of the future or in supporting other national priorities.

Chart 1-14. Medicare enrollment is rising while the number of workers per HI beneficiary is declining



Note: HI (Hospital Insurance). Hospital Insurance is also known as Medicare Part A.

Source: The annual report of the Boards of Trustees of the Medicare trust funds 2016.

- As the baby-boom generation ages, enrollment in the Medicare program will surge. In 15 years, Medicare is projected to have over 80 million beneficiaries—up from 59 million beneficiaries today.
- While Medicare enrollment is rising, the number of workers per beneficiary is rapidly declining. Workers pay for Medicare spending through payroll taxes and income taxes. However, the number of workers per Medicare beneficiary declined from 4.6 during the early years of the program to 3.0 today and is projected by the Medicare Trustees to fall to 2.4 by 2029.
- These demographics threaten the financial stability of the Medicare program.

Chart 1-15. Medicare HI and SMI benefits and cost sharing per FFS beneficiary, 2013

	Average benefit in 2013 (in dollars)	Average cost sharing in 2013 (in dollars)
HI	$4,819	$426
SMI	4,958	1,275

Note: HI (Hospital Insurance), SMI (Supplementary Medical Insurance), FFS (fee-for-service). Dollar amounts are nominal for FFS Medicare only and do not include Part D. "Average benefit" represents amounts paid for covered services per FFS beneficiary and excludes administrative expenses. "Average cost sharing" represents the sum of deductibles, coinsurance, and balance billing paid for covered services per FFS beneficiary and excludes all monthly premiums.

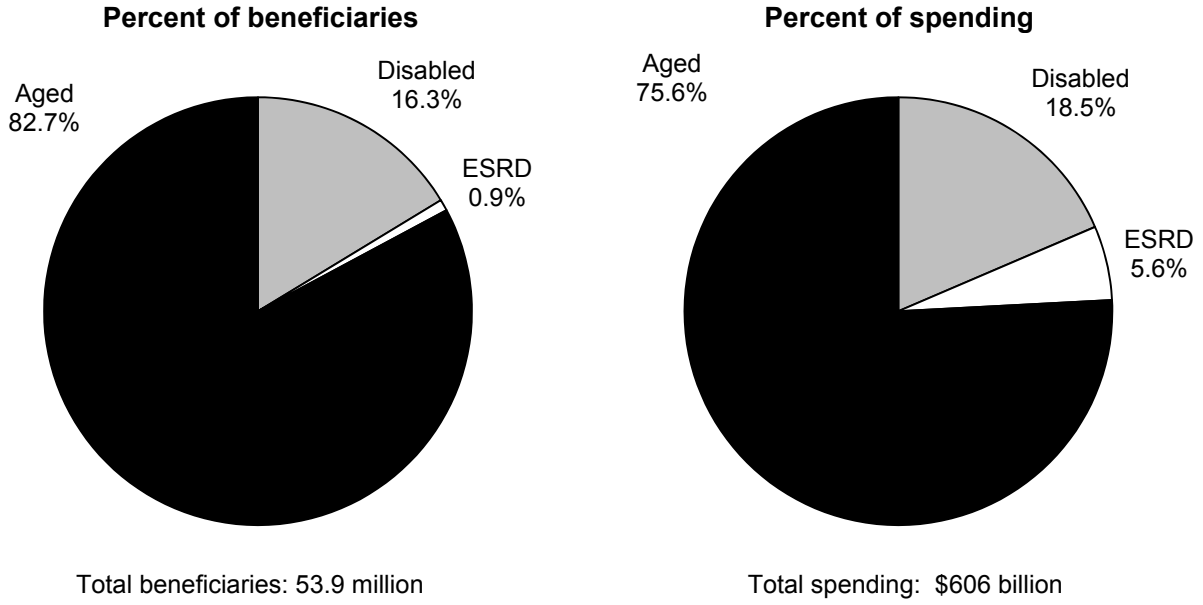
Source: CMS Program Statistics, CMS Office of Enterprise Data and Analytics, CMS Chronic Conditions Data Warehouse.

- In calendar year 2013, the Medicare program made $4,819 in HI (Part A) benefit payments and $4,958 in SMI (Part B) benefit payments on average per FFS beneficiary.
- Beneficiaries owed an average of $426 in cost sharing for HI and $1,275 in cost sharing for SMI in calendar year 2013. (Cost sharing excludes all monthly premiums.)
- To cover some of those cost-sharing requirements, about 90 percent of beneficiaries have coverage that supplements or replaces the Medicare benefit package, such as Medicare Advantage, Medicaid, supplemental coverage through former employers, and medigap coverage.

SECTION 2

Medicare beneficiary demographics

Chart 2-1. Aged beneficiaries accounted for the greatest share of the Medicare population and program spending, 2013

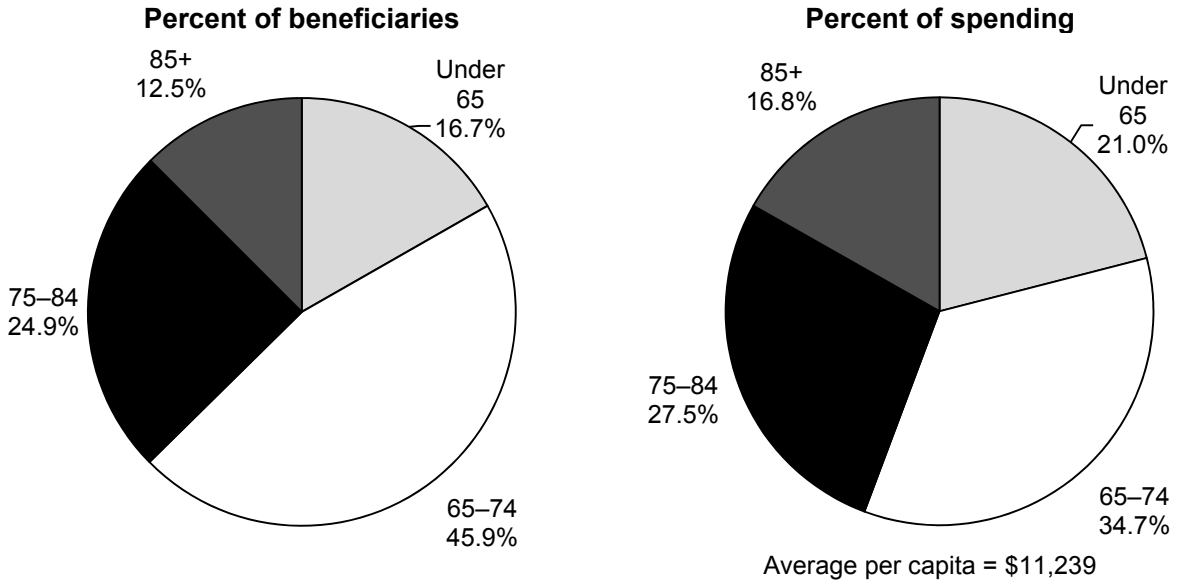


Note: ESRD (end-stage renal disease). The "aged" category includes beneficiaries ages 65 and older without ESRD. The "disabled" category includes beneficiaries under age 65 without ESRD. The "ESRD" category includes beneficiaries with ESRD, regardless of age. Results include fee-for-service, Medicare Advantage, community-dwelling, and institutionalized beneficiaries. Totals may not sum to 100 percent due to rounding and exclusion of an "other" category.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost and Use file 2013.

- In 2013, beneficiaries ages 65 and older without ESRD composed 82.7 percent of the beneficiary population and accounted for 75.6 percent of Medicare spending. Beneficiaries under 65 with a disability and beneficiaries with ESRD accounted for the majority of the remaining population and spending.
- In 2013, average Medicare spending per beneficiary was $11,239 (data not shown).
- A disproportionate share of Medicare expenditures is devoted to Medicare beneficiaries with ESRD. On average, these beneficiaries incur spending that is more than seven times greater than spending for aged beneficiaries (ages 65 years and older without ESRD) or for beneficiaries under age 65 with disability (non-ESRD). In 2013, $72,725 was spent per ESRD beneficiary versus $10,265 per aged beneficiary and $12,776 per beneficiary under age 65 enrolled because of disability (data not shown).

Chart 2-2. Medicare enrollment and spending by age group, 2013

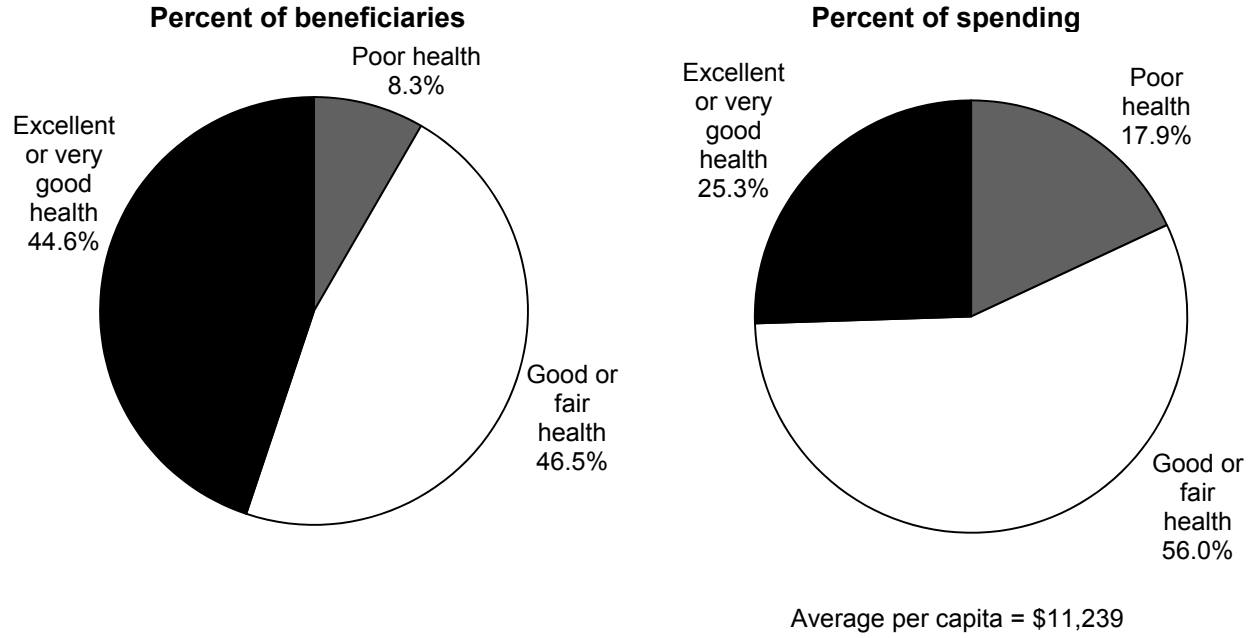


Note: Results include fee-for-service, Medicare Advantage, community-dwelling, and institutionalized beneficiaries.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost and Use file 2013.

- For the aged population (65 and older), per capita expenditures increase with age. In 2013, per capita expenditures were $8,506 for beneficiaries 65 to 74 years old, $12,416 for those 75 to 84 years old, and $15,138 for those 85 or older (data not shown).
- In 2013, per capita expenditures for Medicare beneficiaries under age 65 who were enrolled because of end-stage renal disease or disability were $14,063 (data not shown).

Chart 2-3. Beneficiaries who reported being in poor health accounted for a disproportionate share of Medicare spending, 2013

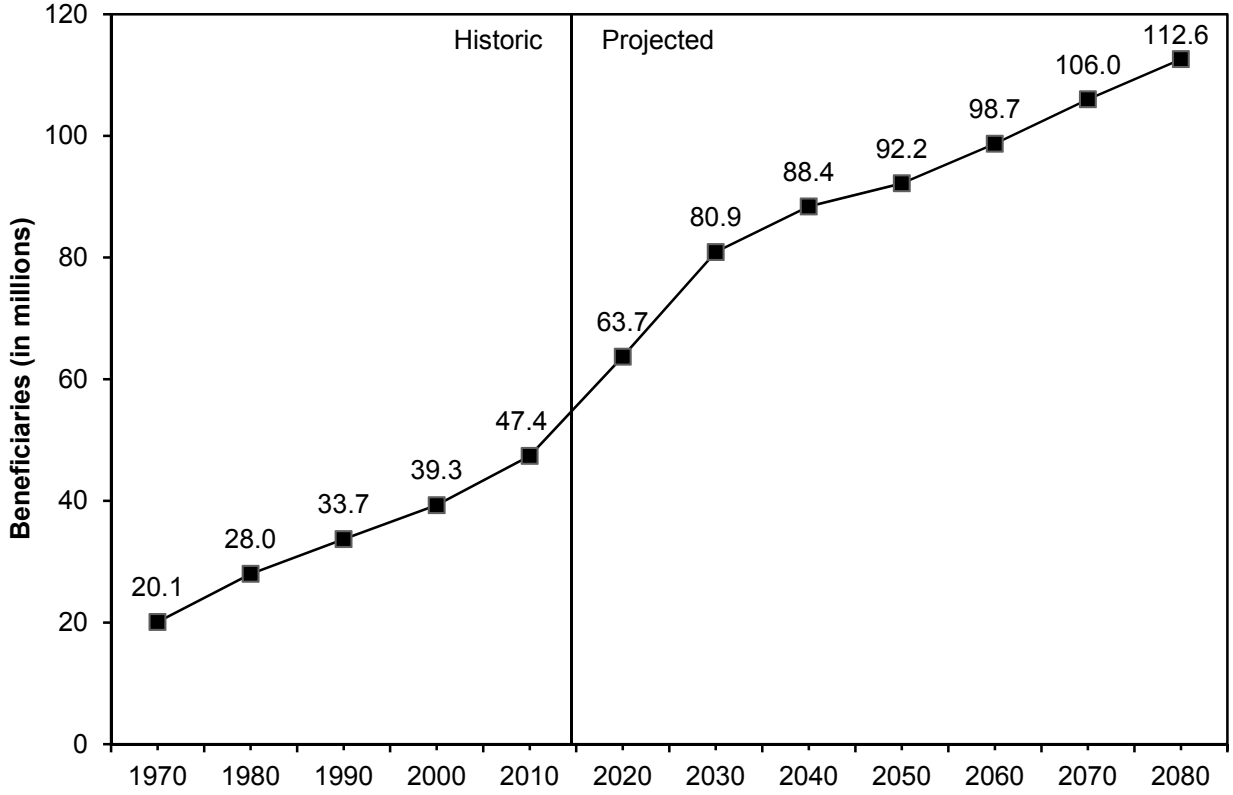


Note: Results include fee-for-service, Medicare Advantage, community-dwelling, and institutionalized beneficiaries. Totals may not sum to 100 percent due to rounding and exclusion of an "other" category.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost and Use file 2013.

- In 2013, most beneficiaries reported fair to excellent health. Fewer than 10 percent reported poor health.
- Medicare spending is strongly associated with self-reported health status. In 2013, per capita expenditures were $6,382 for those who reported excellent or very good health, $13,500 for those who reported good or fair health, and $24,131 for those who reported poor health (data not shown).

Chart 2-4. Enrollment in the Medicare program is projected to grow rapidly in the next 20 years



Note: Enrollment numbers are based on Part A enrollment only. Beneficiaries enrolled only in Part B are not included.

Source: The annual report of the Boards of Trustees of the Medicare trust funds 2016.

- The total number of people enrolled in the Medicare program will increase from about 50 million in 2013 to about 81 million in 2030.
- The rate of increase in Medicare enrollment will accelerate until 2030 as more members of the baby-boom generation become eligible, at which point it will continue to increase, but more slowly, after the entire baby-boom generation has become eligible.

Chart 2-5. Characteristics of the Medicare population, 2013

Characteristic	Percent of the Medicare population	Characteristic	Percent of the Medicare population
Total (53.9 million)	100%	**Living arrangement**	
		Institution	4%
Sex		Alone	26
Male	46	With spouse	47
Female	54	Other	21
Race/ethnicity		**Education**	
White, non-Hispanic	75	No high school diploma	20
African American, non-Hispanic	9	High school diploma only	27
Hispanic	10	Some college or more	52
Other	6		
		Income status	
Age		Below poverty	16
<65	17	100–125% of poverty	8
65–74	46	125–200% of poverty	20
75–84	25	200–400% of poverty	30
85+	13	Over 400% of poverty	25
Health status		**Supplemental insurance status**	
Excellent or very good	45	Medicare only	16
Good or fair	47	Managed care	30
Poor	8	Employer-sponsored insurance	25
		Medigap	14
Residence		Medigap with employer-sponsored insurance	1
Urban	77	Medicaid	13
Rural	23	Other	1

Note: "Urban" indicates beneficiaries living in metropolitan statistical areas (MSAs). "Rural" indicates beneficiaries living outside MSAs. In 2013, poverty was defined as income of $11,173 for people living alone and $14,095 for married couples. Totals may not sum to 100 percent due to rounding and exclusion of an "other" category. Poverty thresholds are calculated by the U.S. Census Bureau (https://www.census.gov/hhes/www/poverty/data/threshold/). Some beneficiaries may have more than one type of supplemental insurance.

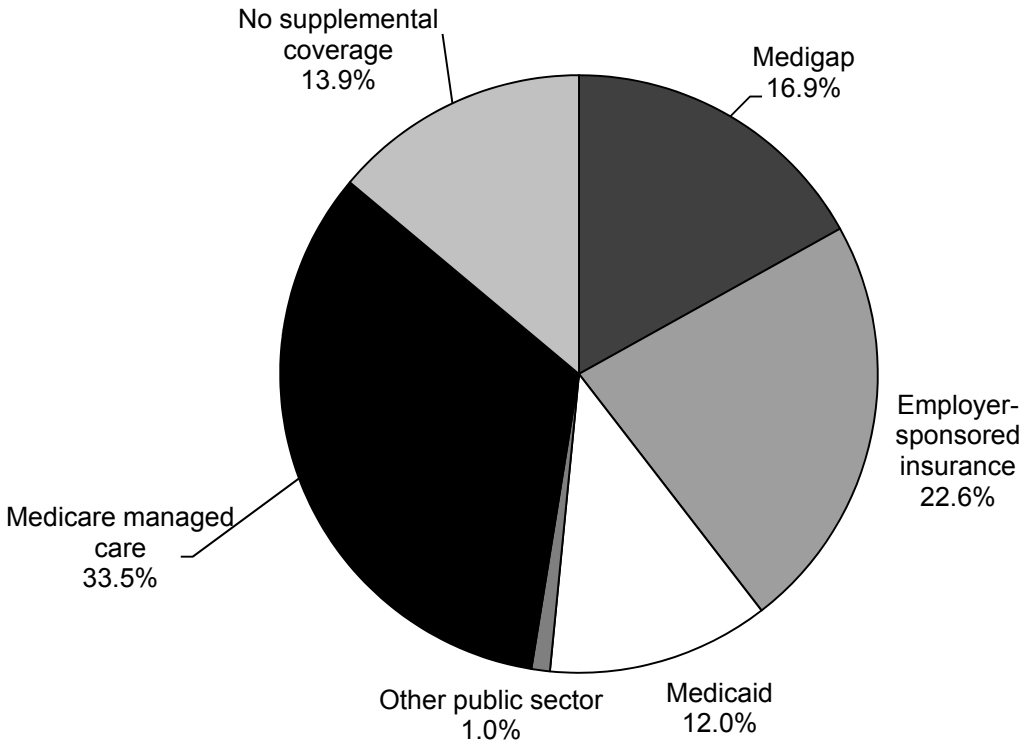
Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost and Use file 2013.

- Most Medicare beneficiaries are female and White.
- Close to one-quarter of beneficiaries live in rural areas.
- Twenty-six percent of the Medicare population lives alone.
- Twenty percent of beneficiaries have no high school diploma.
- Most Medicare beneficiaries have some source of supplemental insurance. Managed care plans are the most common source of supplemental coverage.

SECTION 3

Medicare beneficiary and other payer financial liability

Chart 3-1. Sources of supplemental coverage among noninstitutionalized Medicare beneficiaries, 2013



Note: Beneficiaries are assigned to the supplemental coverage category they were in for the most time in 2013. They could have had coverage in other categories during 2013. "Other public sector" includes federal and state programs not included in other categories. Analysis includes only beneficiaries not living in institutions such as nursing homes. It excludes beneficiaries who were not in both Part A and Part B throughout their enrollment in 2013 or who had Medicare as a secondary payer. Percentages do not sum to 100 because of rounding.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file 2013.

- Most beneficiaries living in the community (noninstitutionalized) have coverage that supplements or replaces the Medicare benefit package. In 2013, about 86 percent of beneficiaries had supplemental coverage or participated in Medicare managed care.
- About 40 percent of beneficiaries had private sector supplemental coverage such as medigap (about 17 percent) or employer-sponsored retiree coverage (about 23 percent).
- About 13 percent of beneficiaries had public sector supplemental coverage, primarily Medicaid.
- About 33 percent of beneficiaries participated in Medicare managed care. This care includes Medicare Advantage, health care prepayment, and cost plans. These types of arrangements generally replace Medicare's fee-for-service coverage and often add more coverage.
- The numbers in this chart differ from those in Chart 2-5, Chart 4-1, and Chart 4-4 because of differences in the populations represented in the charts. This chart excludes beneficiaries in long-term care institutions, Chart 2-5 and Chart 4-4 include all Medicare beneficiaries, and Chart 4-1 excludes beneficiaries in Medicare Advantage.

Chart 3-2. Sources of supplemental coverage among noninstitutionalized Medicare beneficiaries, by beneficiaries' characteristics, 2013

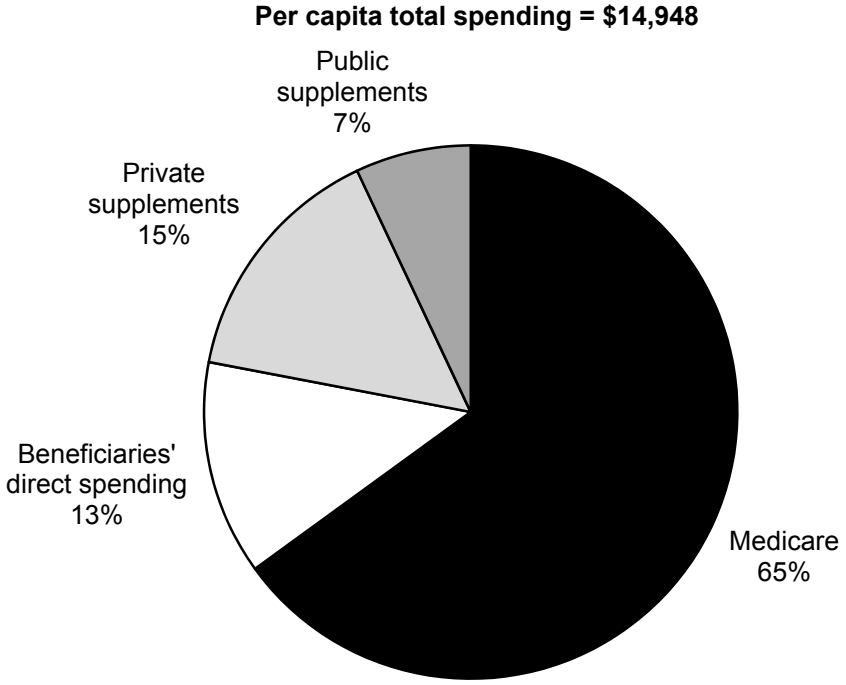
	Number of beneficiaries (thousands)	Employer-sponsored insurance	Medigap insurance	Medicaid	Medicare managed care	Other public sector	Medicare only
All beneficiaries	**45,483**	**23%**	**17%**	**12%**	**33%**	**1%**	**14%**
Age							
<65	7,484	7	4	36	28	2	23
65–69	11,050	20	19	8	33	1	19
70–74	9,480	27	19	6	37	1	10
75–79	7,181	28	19	7	36	1	9
80–84	5,059	28	21	7	34	1	9
85+	5,289	30	21	8	32	1	9
Income category							
<$10,000	5,773	6	6	44	30	1	13
$10,000–$19,999	12,359	10	13	21	37	2	16
$20,000–$29,999	8,343	25	17	3	37	1	17
$30,000–$39,999	5,938	28	21	1	34	0	15
$40,000–$59,999	5,738	33	22	0	34	0	11
$60,000–$89,999	4,012	43	18	0	28	0	11
≥$90,000	3,320	41	29	0	22	0	8
Eligibility status							
Aged	37,854	26	19	7	35	1	12
Disabled	7,229	7	4	37	28	2	22
ESRD	345	16	13	22	24	2	22
Residence							
Urban	34,988	23	15	11	37	1	12
Rural	10,495	22	23	14	21	1	19
Sex							
Male	20,341	23	16	11	33	1	17
Female	25,142	23	18	13	34	1	12
Health status							
Excellent/very good	20,668	26	20	6	35	1	12
Good/fair	21,098	21	15	15	33	1	15
Poor	3,526	12	10	29	29	2	19

Note: ESRD (end-stage renal disease). Beneficiaries are assigned to the supplemental coverage category they were in for the most time in 2013. They could have had coverage in other categories during 2013. "Medicare managed care" includes Medicare Advantage, cost, and health care prepayment plans. "Other public sector" includes federal and state programs not included in other categories. Married people have joint income reported on the data file. We divided their income by 1.26 to create an equal measure with unmarried people. "Urban" indicates beneficiaries living in metropolitan statistical areas (MSAs). "Rural" indicates beneficiaries living outside MSAs. Analysis excludes beneficiaries living in institutions such as nursing homes. It excludes beneficiaries who were not in both Part A and Part B throughout their enrollment in 2013 or who had Medicare as a secondary payer. The number of beneficiaries differs among boldface categories because we excluded beneficiaries with missing values. Numbers in some rows do not sum to 100 percent because of rounding.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file 2013.

- Beneficiaries most likely to have employer-sponsored supplemental coverage are those who are age 65 or older, have income over $20,000, are eligible because of age, and report better than poor health.
- Medigap is most common among those who are age 65 or older, have income of $20,000 or more, are eligible because of age, are rural dwelling, and report better than poor health.
- Medicaid coverage is most common among those who are under age 65, have income below $20,000, are eligible because of disability or ESRD, are rural dwelling, and report poor health.
- Lack of supplemental coverage (Medicare coverage only) is most common among beneficiaries who are under age 65, have income below $40,000, are eligible because of disability or ESRD, are rural dwelling, are male, and report poor health.

Chart 3-3. Total spending on health care services for noninstitutionalized FFS Medicare beneficiaries, by source of payment, 2013



Note: FFS (fee-for-service). "Private supplements" includes employer-sponsored plans and individually purchased coverage. "Public supplements" includes Medicaid, Department of Veterans Affairs, and other public coverage. "Direct spending" is on Medicare cost sharing and noncovered services, but not supplemental premiums. Analysis includes only FFS beneficiaries not living in institutions such as nursing homes. We excluded Medicare Advantage enrollees.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file 2013.

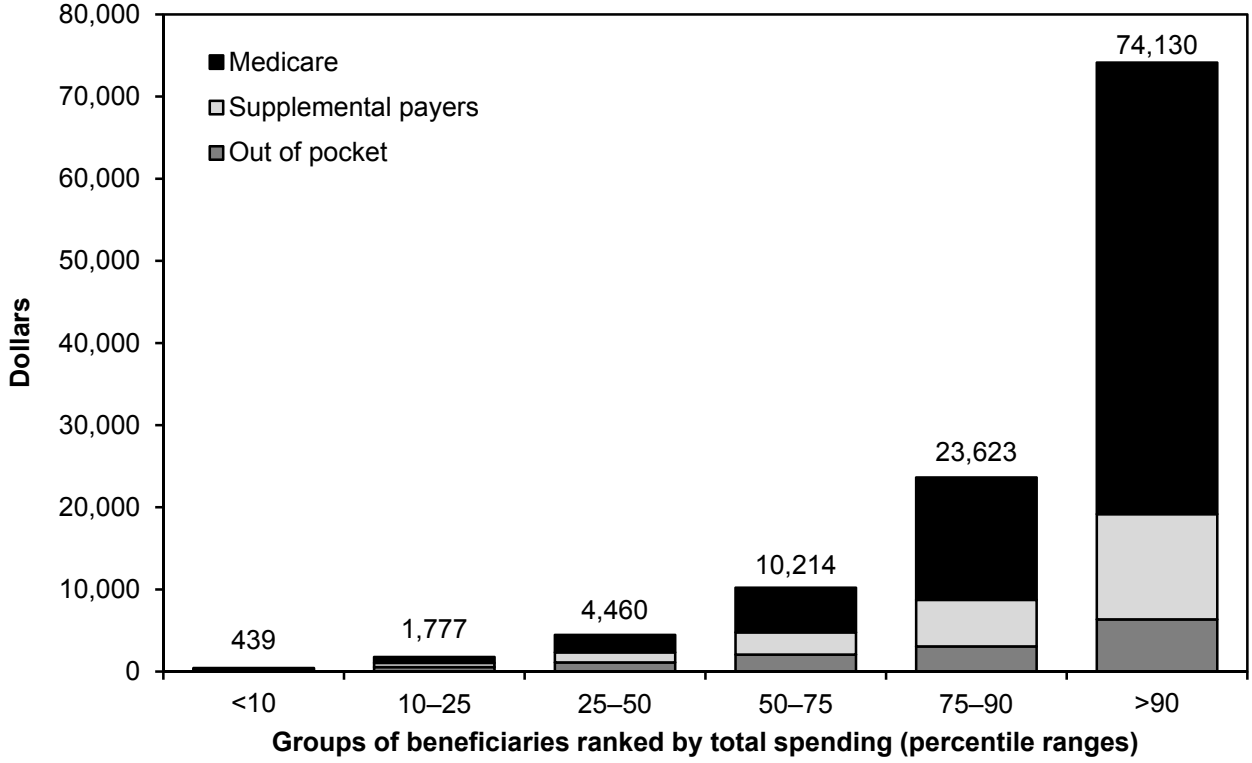
- Among FFS beneficiaries living in the community (noninstitutionalized), the total cost of health care services (defined as beneficiaries' direct spending as well as expenditures by Medicare, other public sector sources, and all private sector sources on all health care goods and services) averaged about $15,000 in 2013. Medicare was the largest source of payment: It paid 65 percent of the health care costs for FFS beneficiaries living in the community, an average of $9,748 per beneficiary. The level of Medicare spending in this chart differs from the level in Chart 2-1 because this chart excludes beneficiaries in Medicare Advantage and those living in institutions, while Chart 2-1 represents all Medicare beneficiaries.

- Private sources of supplemental coverage—primarily employer-sponsored retiree coverage and medigap—paid 15 percent of beneficiaries' costs, an average of $2,198 per beneficiary.

- Beneficiaries paid 13 percent of their health care costs out of pocket, an average of $1,993 per beneficiary.

- Public sources of supplemental coverage—primarily Medicaid—paid 7 percent of beneficiaries' health care costs, an average of $1,009 per beneficiary.

Chart 3-4. Per capita total spending on health care services among noninstitutionalized FFS beneficiaries, by source of payment, 2013



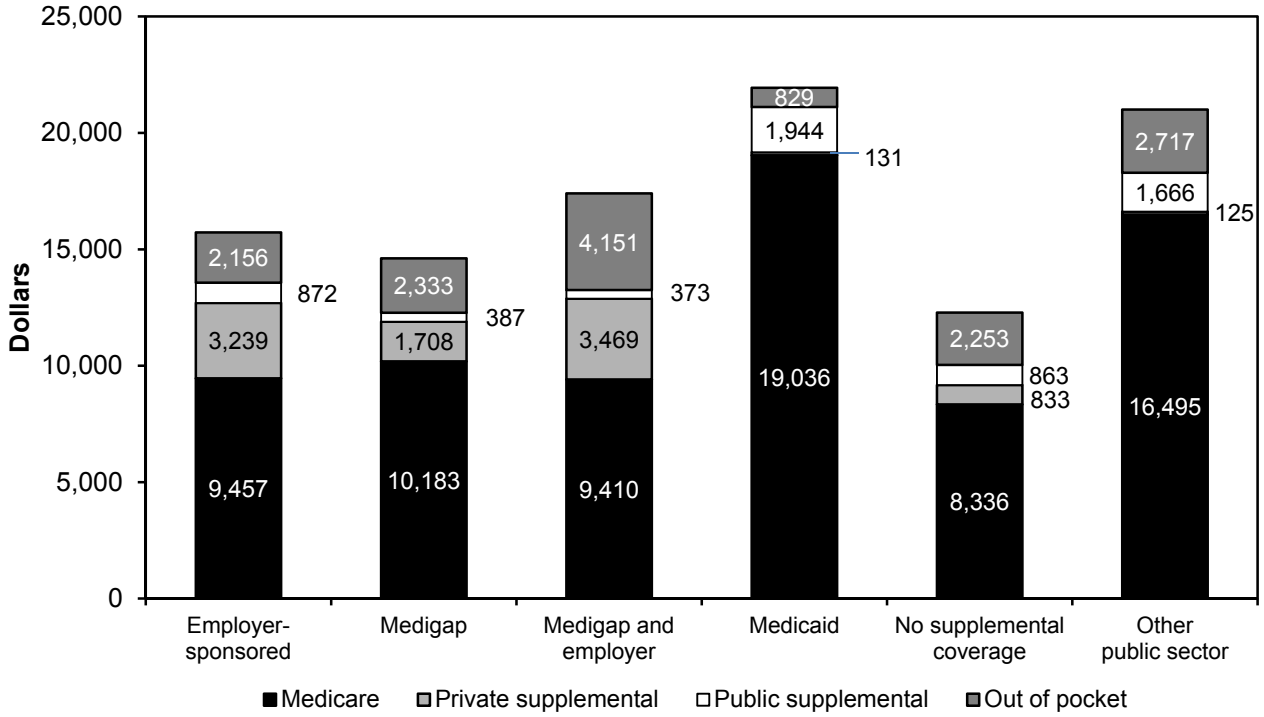
Note: FFS (fee-for-service). Analysis excludes those who are not in FFS Medicare and those living in institutions such as nursing homes. “Out-of-pocket" spending includes Medicare cost sharing and noncovered services.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file 2013.

- Total spending on health care services varied dramatically among FFS beneficiaries living in the community in 2013. Per capita spending for the 10 percent of beneficiaries with the highest total spending averaged $74,130. Per capita spending for the 10 percent of beneficiaries with the lowest total spending averaged $439.

- Among FFS beneficiaries living in the community, Medicare paid a larger percentage as total spending increased, and beneficiaries’ out-of-pocket spending was a smaller percentage as total spending increased. For example, Medicare paid 65 percent of total spending for all beneficiaries, but paid 77 percent of total spending for the 10 percent of beneficiaries with the highest total spending. Beneficiaries’ out-of-pocket spending covered 13 percent of total spending for all beneficiaries, but only 9 percent of total spending for the 10 percent of beneficiaries with the highest total spending.

Chart 3-5. Variation in and composition of total spending among noninstitutionalized FFS beneficiaries, by type of supplemental coverage, 2013



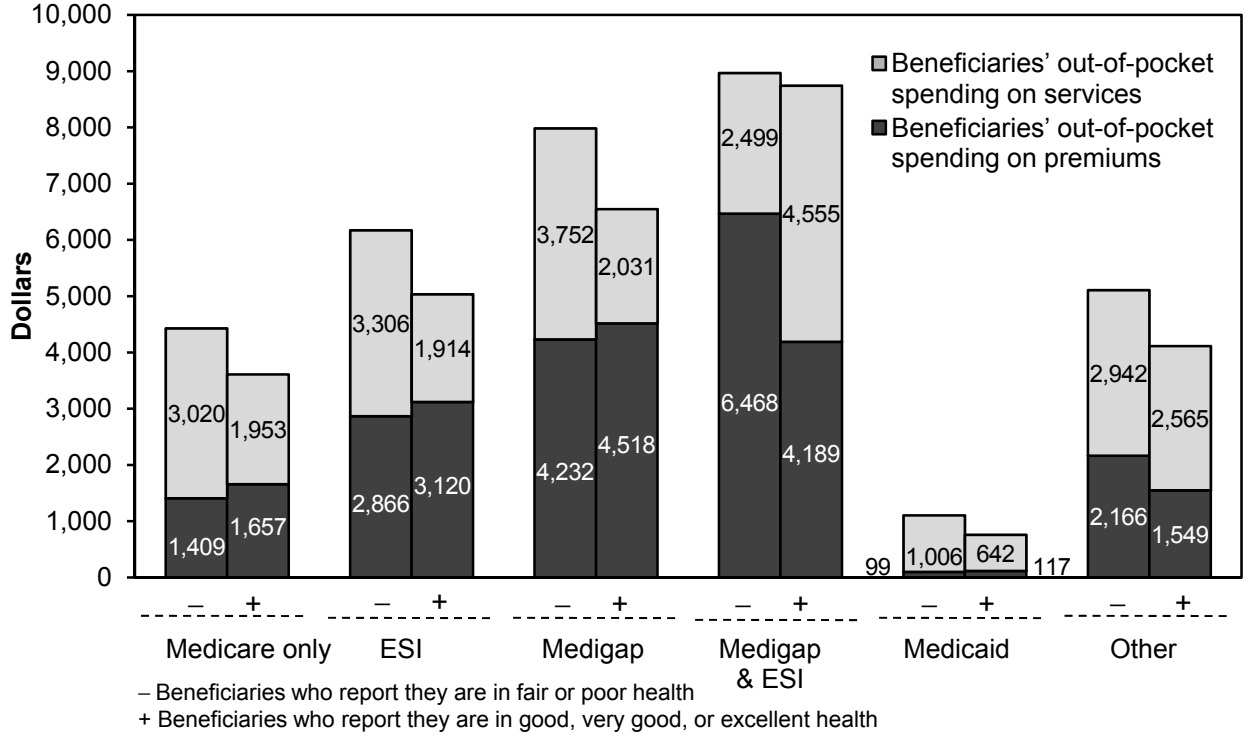
Note: FFS (fee-for-service). Beneficiaries are assigned to the supplemental coverage category they were in for the most time in 2013. They could have had coverage in other categories during 2013. "Other public sector" includes federal and state programs not included in the other categories. "Private supplemental" includes employer-sponsored plans and individually purchased coverage. "Public supplemental" includes Medicaid, Department of Veterans Affairs, and other public coverage. "Out-of-pocket" spending includes Medicare cost sharing and noncovered services, but not supplemental premiums. Analysis excludes beneficiaries who were not in FFS Medicare or lived in institutions such as nursing homes. It excludes beneficiaries who were not in both Part A and Part B throughout their enrollment in 2013 or had Medicare as a second payer.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file 2013.

- The level of total spending (defined as beneficiaries' out-of-pocket spending as well as expenditures by Medicare, other public sector sources, and all private sector sources on all health care goods and services) among FFS beneficiaries living in the community varied by the type of supplemental coverage they had. Total spending was lower for those beneficiaries with no supplemental coverage than for those beneficiaries who had supplemental coverage. Beneficiaries with Medicaid coverage had the highest level of total spending—79 percent higher than those with no supplemental coverage in 2013.

- Medicare was the largest source of payment for beneficiaries in each supplemental insurance category, but the second largest source of payment differed. Among those with employer-sponsored or Medicaid supplemental coverage, combined public and private supplemental coverage was the second largest source of payment. Among those who were covered by medigap, medigap with employer-sponsored insurance, or only by Medicare, beneficiaries' out-of-pocket spending was the second largest source of payment.

Chart 3-6. Out-of-pocket spending for premiums and health services per beneficiary, by insurance and health status, 2013

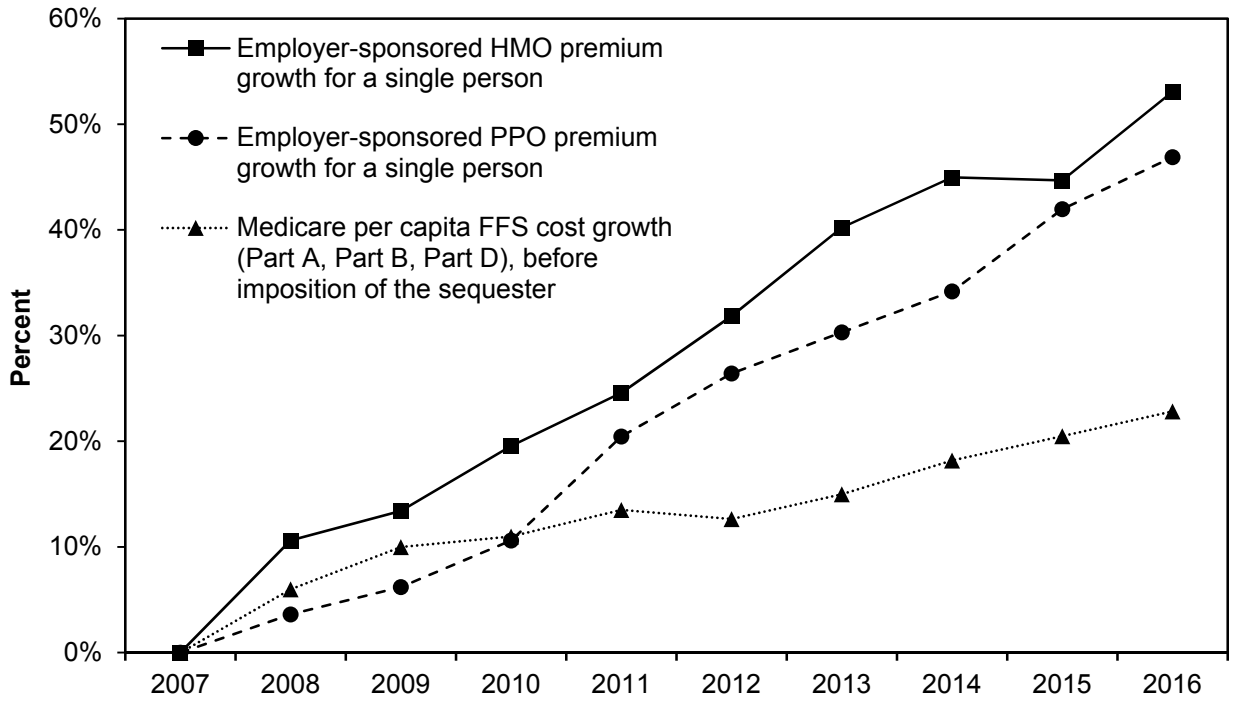


Note: ESI (employer-sponsored supplemental insurance). The amount of out-of-pocket spending on services for Medicare-only beneficiaries who have fair or poor health increased substantially over the amount on the analogous chart from our June 2016 data book. The reason for this increase was that the data sample we used in this chart had fewer beneficiaries reporting zero out-of-pocket spending than the sample we used for the June 2016 data book. Likewise, the amount of out-of-pocket spending on services for beneficiaries who have both medigap and ESI coverage and report good, very good, or excellent health in this chart is substantially higher than in the analogous chart from our June 2016 data book. The reason for this increase is that the sample we used in this chart had one observation with an extremely high level of out-of-pocket spending.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file 2013.

- This diagram illustrates out-of-pocket spending on services and premiums by beneficiaries' supplemental insurance and health status in 2013. For example, beneficiaries who had only traditional Medicare coverage ("Medicare only") and reported fair or poor health averaged $1,409 in out-of-pocket spending on premiums and $3,020 on services in 2013. Those who had Medicare-only coverage and reported good, very good, or excellent health averaged $1,657 in out-of-pocket spending on premiums and $1,953 on services.
- Insurance that supplements Medicare does not shield beneficiaries from all out-of-pocket costs. Beneficiaries who reported being in fair or poor health spent more out of pocket for health services than those reporting good, very good, or excellent health, except for those who had medigap and employer-sponsored supplemental coverage. This result for those who had medigap and employer-sponsored coverage is likely an artifact of a small sample size.
- Despite having supplemental coverage, beneficiaries who had ESI or medigap often had out-of-pocket spending that was more than those who had only coverage under traditional Medicare ("Medicare only"). This result likely reflects the fact that beneficiaries who had ESI or medigap had higher incomes and were likely to have stronger preferences for health care.
- What beneficiaries actually pay out of pocket varies by type of supplemental coverage. For those with medigap, out-of-pocket spending generally reflects the premiums and costs of services not covered by Medicare. Beneficiaries with ESI usually pay less out of pocket for Medicare noncovered services than those with medigap but may pay more in Medicare deductibles and cost sharing.

Chart 3-7. Cost of employer-sponsored commercial insurance has grown twice as fast as Medicare costs per capita



Note: HMO (health maintenance organization), PPO (preferred provider organization), FFS (fee-for-service).

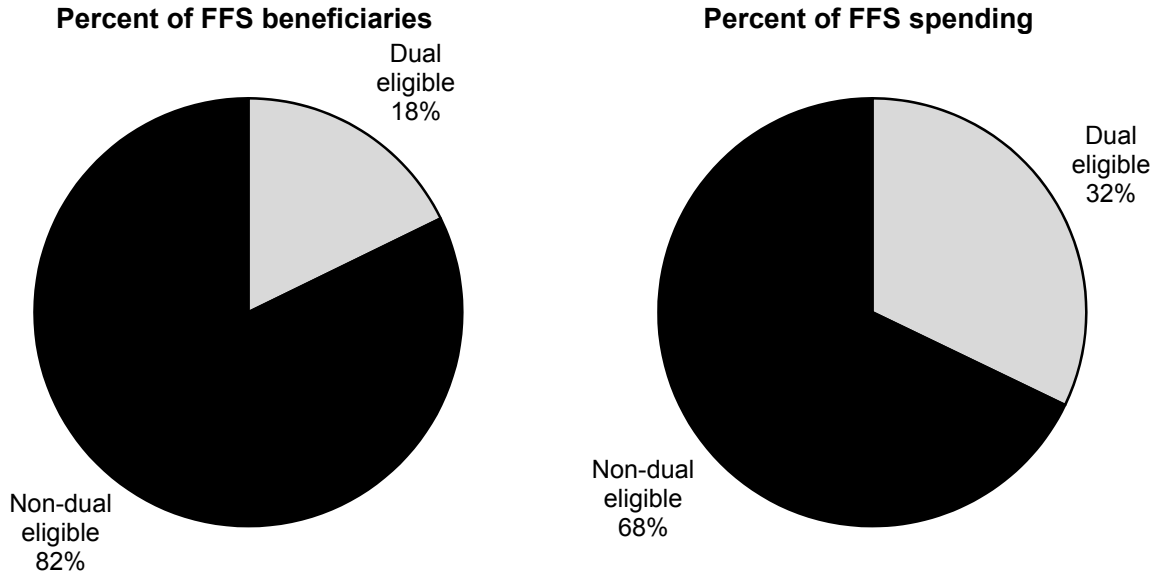
Source: Employer-sponsored premium data are from Kaiser Family Foundation surveys, 2007 through 2016. Medicare spending figures are from Part A and Part B program spending data from the CMS Actuary; Part D spending per capita figures through 2015 are from MedPAC analysis of claims and reinsurance data for individuals with Part D coverage. Part D spending for 2016 is a projection.

- Medicare costs have risen more slowly than commercial insurance premiums in part due to slower price growth for Medicare services.
- Per capita costs in FFS Medicare grew by 23 percent from 2007 to 2016. This 23 percent growth rate is the cumulative growth in the CMS Actuary's estimated cost of Part A and Part B benefits and the Commission's estimates of the cost of Part D premiums and reinsurance from 2007 to 2016. The Medicare FFS growth rate also was not adjusted for enhancements of the Part D benefit that included a shrinking of the coverage gap.
- In the commercial sector, employer-sponsored HMO premiums grew by 53 percent and PPO premiums by 47 percent over the same period, despite the rapidly increasing deductibles reported in the Kaiser Family Foundation survey. While deductibles grew rapidly for both employer-sponsored HMOs and PPOs, they tended to grow fastest for PPOs, possibly explaining why PPO premiums grew at a slightly slower rate than HMO premiums.
- None of the growth rates that we discuss have been adjusted for changes in demographics. We note that the average age of Medicare FFS beneficiaries declined by 0.3 years over this period.

SECTION 4

Dual-eligible beneficiaries

Chart 4-1. Dual-eligible beneficiaries accounted for a disproportionate share of Medicare spending, 2013

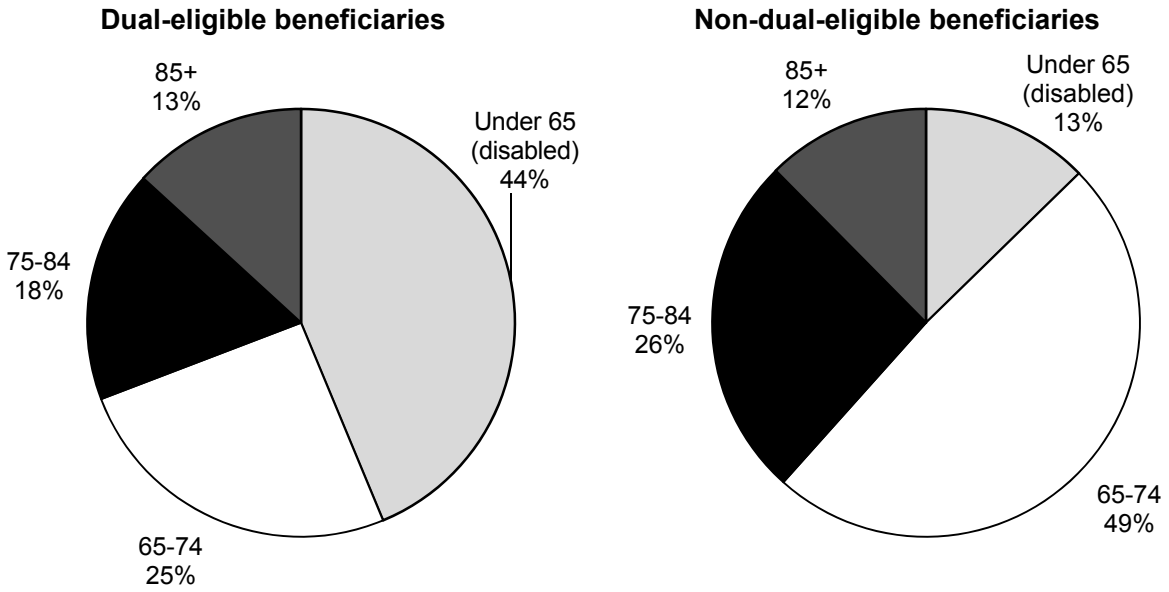


Note: FFS (fee-for-service). Dual-eligible beneficiaries are designated as such if the months they were enrolled in Medicaid exceeded the months they were enrolled in supplemental insurance.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost and Use file 2013.

- Dual-eligible beneficiaries are those who qualify for both Medicare and Medicaid. Medicaid is a joint federal and state program designed to help people with low incomes obtain needed health care.
- Dual-eligible beneficiaries account for a disproportionate share of Medicare FFS expenditures. Although they were 18 percent of the Medicare FFS population in 2013, they represented 32 percent of aggregate Medicare FFS spending.
- On average, Medicare FFS per capita spending is more than twice as high for dual-eligible beneficiaries compared with non-dual-eligible beneficiaries: In 2013, $19,789 was spent per dual-eligible beneficiary, and $9,035 was spent per non-dual-eligible beneficiary (data not shown).
- In 2013, average total spending—which includes Medicare, Medicaid, supplemental insurance, and out-of-pocket spending across all payers—for dual-eligible beneficiaries was $31,894 per beneficiary, about twice the amount for other Medicare beneficiaries (data not shown).

Chart 4-2. Dual-eligible beneficiaries were more likely than non-dual-eligible beneficiaries to be under age 65 and disabled, 2013

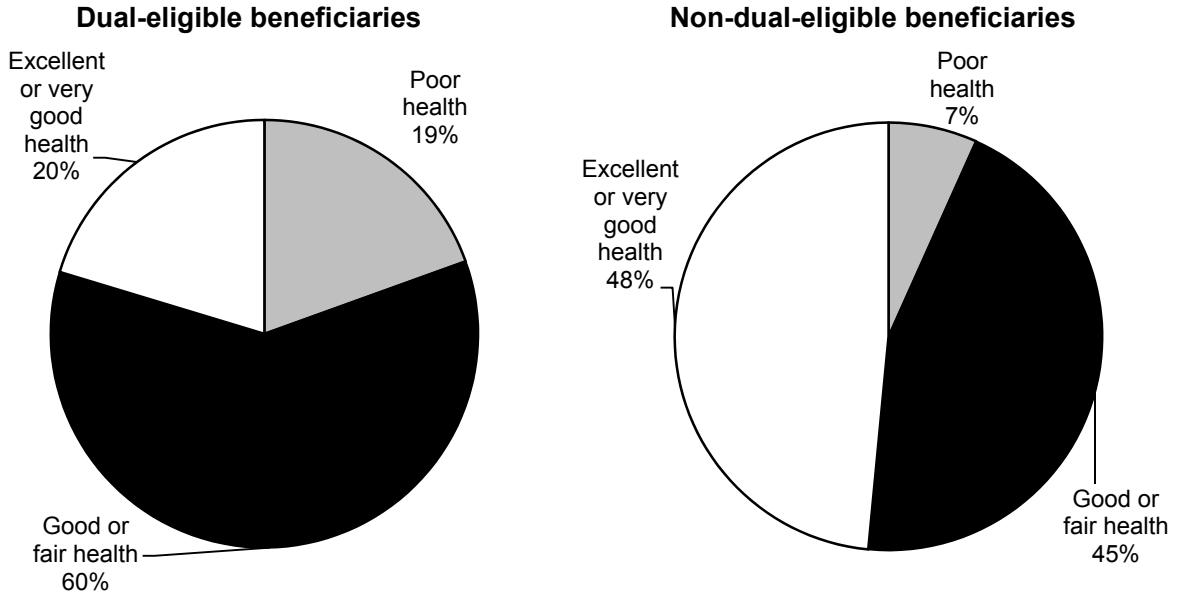


Note: Beneficiaries who are under age 65 qualify for Medicare because they are disabled. Once disabled beneficiaries reach age 65, they are counted as aged beneficiaries. Dual-eligible beneficiaries are designated as such if the months they were enrolled in Medicaid exceeded the months they were enrolled in supplemental insurance.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file 2013.

- Disability is a pathway for individuals to become eligible for both Medicare and Medicaid benefits.
- Dual-eligible beneficiaries are more likely than non-dual-eligible beneficiaries to be under age 65 and disabled. In 2013, 44 percent of dual-eligible beneficiaries were under age 65 and disabled compared with 13 percent of the non-dual-eligible population.

Chart 4-3. Dual-eligible beneficiaries were more likely than non-dual-eligible beneficiaries to report poorer health status, 2013



Note: Dual-eligible beneficiaries are designated as such if the months they were enrolled in Medicaid exceeded the months they were enrolled in supplemental insurance. Totals may not sum to 100 percent due to rounding or nonresponse to survey question.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost and Use file 2013.

- Dual-eligible beneficiaries are more likely than non-dual-eligible beneficiaries to report poorer health status. In 2013, 19 percent of dual-eligible beneficiaries reported being in poor health compared with 7 percent of non-dual-eligible beneficiaries.

- Almost half of non-dual-eligible beneficiaries (48 percent) reported being in excellent or very good health in 2013. In comparison, only one-fifth (20 percent) of dual-eligible beneficiaries reported being in excellent or very good health.

Chart 4-4. Demographic differences between dual-eligible beneficiaries and non-dual-eligible beneficiaries, 2013

Characteristic	Percent of dual-eligible beneficiaries	Percent of non-dual-eligible beneficiaries
Sex		
Male	40%	46%
Female	60	54
Race/ethnicity		
White, non-Hispanic	54	78
African American, non-Hispanic	19	8
Hispanic	17	9
Other	10	5
Limitations in ADLs		
No limitations in ADLs	42	67
Limitations in 1–2 ADLs	27	22
Limitations in 3–6 ADLs	32	11
Residence		
Urban	73	78
Rural	27	22
Living arrangement		
Institution	15	2
Alone	31	26
With spouse	14	54
With children, nonrelatives, others	39	19
Education		
No high school diploma	43	17
High school diploma only	30	27
Some college or more	27	56
Income status		
Below poverty	59	10
100–125% of poverty	20	7
125–200% of poverty	17	21
200–400% of poverty	4	34
Over 400% of poverty	<1	29
Supplemental insurance status		
Medicare or Medicare/Medicaid only	93	19
Medicare managed care	3	34
Employer-sponsored insurance	1	29
Medigap	<1	16
Medigap/employer	0	1
Other*	3	1

Note: ADL (activity of daily living). Dual-eligible beneficiaries are designated as such if the months they were enrolled in Medicaid exceeded the months they were enrolled in other supplemental insurance. "Urban" indicates beneficiaries living in metropolitan statistical areas (MSAs). "Rural" indicates beneficiaries living outside of MSAs. In 2013, poverty was defined as annual income of $11,173 for people living alone and $14,095 for married couples. Totals may not sum to 100 percent due to rounding and exclusion of an "other" category. Poverty thresholds are calculated by the U.S. Census Bureau (https://www.census.gov/hhes/www/poverty/data/threshld/). *Includes public programs such as the Department of Veterans Affairs and state-sponsored drug plans.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file 2013.

- Dual-eligible beneficiaries qualify for Medicaid due in part to low incomes. In 2013, 59 percent of dual-eligible beneficiaries lived below the federal poverty level, and 96 percent lived below 200 percent of the poverty level. Compared with non-dual-eligible beneficiaries, dual-eligible beneficiaries are more likely to be female, be African American or Hispanic, lack a high school diploma, have greater limitations in activities of daily living, reside in a rural area, and live in an institution. They are less likely to have sources of supplemental coverage other than Medicaid.

Chart 4-5. Differences in Medicare spending and service use between dual-eligible beneficiaries and non-dual-eligible beneficiaries, 2013

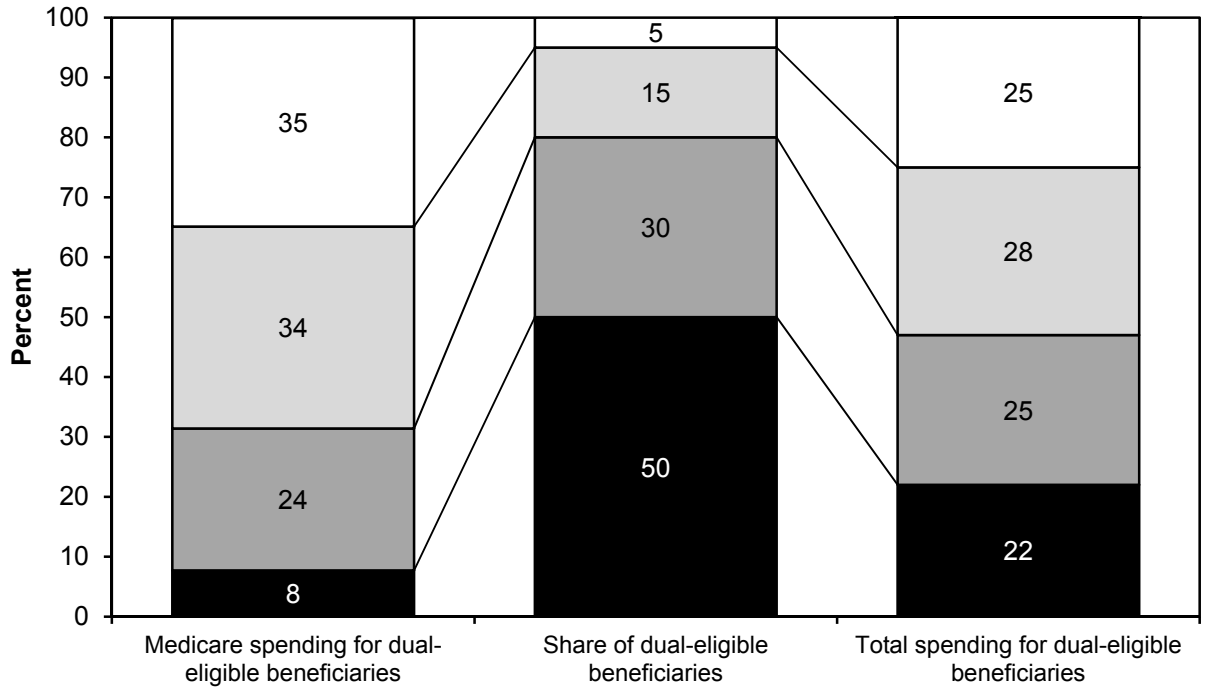
Service	Dual-eligible beneficiaries	Non-dual-eligible beneficiaries
Average FFS Medicare payment for all beneficiaries		
Total Medicare FFS payments	$19,789	$9,035
Inpatient hospital	6,340	2,821
Physician[a]	3,445	2,377
Outpatient hospital	2,283	1,307
Home health	771	387
Skilled nursing facility[b]	1,608	573
Hospice	473	231
Prescribed medication[c]	4,740	1,322
Share of FFS beneficiaries using service		
Share using any type of service	97.9%	86.1%
Inpatient hospital	25.4	14.7
Physician[a]	93.6	81.6
Outpatient hospital	78.5	61.1
Home health	13.5	8.1
Skilled nursing facility[b]	9.3	4.1
Hospice	3.9	1.9
Prescribed medication[c]	80.5	53.6

Note: FFS (fee-for-service). Data in this analysis are restricted to beneficiaries in FFS Medicare. Dual-eligible beneficiaries are designated as such if the months they were enrolled in Medicaid exceeded the months they were enrolled in supplemental insurance. Spending totals derived from the Medicare Current Beneficiary Survey (MCBS) do not necessarily match official estimates from CMS Office of the Actuary. Total payments may not equal the sum of line items due to omitted "other" category.
[a] Includes a variety of medical services, equipment, and supplies.
[b] Individual short-term facility (usually skilled nursing facility) stays for the MCBS population.
[c] Data from Medicare Advantage–Prescription Drug plans and stand-alone prescription drug plans.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost and Use file 2013.

- Average per capita Medicare FFS spending for dual-eligible beneficiaries was more than twice that for non-dual-eligible beneficiaries—$19,789 compared with $9,035.
- For each type of service, average Medicare FFS per capita spending is higher for dual-eligible beneficiaries than for non-dual-eligible beneficiaries.
- Higher average per capita FFS spending for dual-eligible beneficiaries is a function of a higher use of these services by dual-eligible beneficiaries compared with their non-dual-eligible counterparts. Dual-eligible beneficiaries are more likely than non-dual-eligible beneficiaries to use each type of Medicare-covered service.

Chart 4-6. Both Medicare and total spending were concentrated among dual-eligible beneficiaries, 2013



Note: "Total spending" includes Medicare, Medicaid, supplemental insurance, and out-of-pocket spending. Dual-eligible beneficiaries are designated as such if the months they were enrolled in Medicaid exceeded the months they were enrolled in supplemental insurance. Totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost and Use files 2013.

- Annual Medicare FFS spending on dual-eligible beneficiaries is concentrated among a small number. The costliest 20 percent of dual-eligible beneficiaries accounted for 69 percent of Medicare spending and 53 percent of total spending on dual-eligible beneficiaries in 2013. In contrast, the least costly 50 percent of dual-eligible beneficiaries accounted for only 8 percent of Medicare spending and 22 percent of total spending on dual-eligible beneficiaries.

- On average, total spending (including Medicaid, medigap, etc.) for dual-eligible beneficiaries in 2013 was about twice that for non-dual-eligible beneficiaries—$19,789 compared with $9,035, respectively (data not shown).

SECTION 5

Quality of care in the Medicare program

Chart 5-1. SNFs improved on some measures but not others from 2011 to 2015

Measure	2011	2012	2013	2014	2015
Discharged to the community	33.2%	35.6%	37.5%	37.6%	38.8%
Potentially avoidable readmissions					
During SNF stay	12.4	11.4	11.1	10.8	10.4
During 30 days after discharge from SNF	5.9	5.6	5.5	5.6	5.0
Rate of improvement in one or more mobility ADLs	43.6	43.6	43.6	43.4	43.5
Rate of no decline in mobility	87.2	87.3	87.2	87.1	87.1

Note: SNF (skilled nursing facility), ADL (activity of daily living). High rates of discharge to the community indicate better quality. High readmission rates indicate worse quality. The rate of improvement in mobility ADLs is the average of the rates of improvement in bed mobility, transfer, and ambulation, weighted by the number of stays included in each measure. Stays with improvement in one, two, or three mobility ADLs are counted in the improvement measures. "Rate of no decline in mobility" is the share of stays with no decline in any of the three ADLs. Rates are the average of facility rates and calculated for all facilities with 25 or more stays, except the rate of potentially avoidable readmission during the 30 days after discharge, which is reported for all facilities with 20 or more stays. Measures exclude hospital-based swing-bed units.

Source: MedPAC analysis of Medicare claims and Minimum Data Set data for 2011–2015.

- Rates of risk-adjusted community discharge and potentially avoidable readmission during the SNF stay improved between 2011 and 2015. A greater share of beneficiaries was discharged to the community (38.8 percent compared with 33.2 percent). A lesser share of beneficiaries was readmitted to an acute care hospital during the SNF stay (10.4 percent compared with 12.4 percent) or in the 30 days after discharge (5.0 percent compared with 5.9 percent).

- Both readmission rates include only patients readmitted to a hospital with the principal diagnosis of a potentially avoidable condition. The 13 potentially avoidable conditions are congestive heart failure, electrolyte imbalance/dehydration, respiratory infection, sepsis, urinary tract or kidney infection, hypoglycemia or diabetic complications, anticoagulant complications, fractures and musculoskeletal injuries, acute delirium, adverse drug reactions, cellulitis/wound infections, pressure ulcers, and abnormal blood pressure.

- The two risk-adjusted measures of change in functional status were essentially unchanged between 2011 and 2015. The mobility measures are composites of the patients' abilities in bed mobility, transfer, and ambulation, and they reflect the likelihood that a patient will change, given his or her functional ability at admission. A facility admitting patients with worse prognoses will have a lower expected rate of achieving these outcomes, and this difference will be reflected in the risk-adjusted rates. The rate of improvement in mobility shows the share of stays with improvement in one, two, or three ADLs: bed mobility, transfer, and ambulation. The rate of no decline in mobility is the share of stays with no decline in any of the three ADLs.

Chart 5-2. Home health agencies' performance on quality measures from 2004 to 2015

Measure	2004	2008	2013	2014	2015
Hospitalization rate	27.7%	28.8%	26.5%	27.8%	25.4%
Share of a home health agency's beneficiaries with improvements in:					
Walking	35.9	41.9	54.4	56.0	66.9
Transferring	49.2	48.1	50.5	51.3	63.3

Note: The measure for walking changed in 2011; therefore, the 2004 and 2008 results shown are not comparable with data from later years.

Source: MedPAC analysis of Outcome and Assessment Information Set data compiled by the University of Colorado.

- The average risk-adjusted rate of hospitalization for home health stays has decreased in recent years, but remains over 25 percent.

- Medicare publishes risk-adjusted home health quality measures that track changes in the functional abilities of patients who receive home health care. These measures do not include home health episodes that end with a hospitalization. The share of an agency's beneficiaries with improvement in walking had meaningful improvement (more than 10 percentage points) from 2014 to 2015. The share of an agency's beneficiaries with improvement in transferring also increased more than 10 percentage points from 2014 to 2015.

Chart 5-3. IRFs improved on risk-adjusted rates of discharge to the community and potentially avoidable rehospitalizations from 2011 to 2015

Measure	2011	2012	2013	2014	2015
Potentially avoidable rehospitalizations during IRF stay	2.9%	2.6%	2.5%	2.5%	2.4%
Potentially avoidable rehospitalizations during 30 days after discharge from IRF	5.0	4.6	4.6	4.5	4.2
Discharged to the community	74.0	75.2	75.8	76.2	76.0
Discharged to a SNF	6.9	6.7	6.7	6.9	6.8

Note: IRF (inpatient rehabilitation facility), SNF (skilled nursing facility). High rates of rehospitalization and discharge to a SNF indicate worse quality. High rates of discharge to the community indicate better quality. Rates are the average of the facility rates and are calculated for all facilities with 25 or more stays.

Source: Analysis of Inpatient Rehabilitation Facility–Patient Assessment Instruments from CMS.

- Between 2011 and 2015, the national average rate of risk-adjusted potentially avoidable rehospitalizations during the IRF stay declined from 2.9 percent to 2.4 percent. (Lower rates are better.) A similar pattern was observed in the rate of risk-adjusted potentially avoidable rehospitalizations within 30 days after discharge from an IRF: The national average declined between 2011 and 2015 from 5.0 percent to 4.2 percent.

- The rehospitalization rates count only stays readmitted to a hospital with the principal diagnosis of a potentially avoidable condition. The potentially avoidable rehospitalizations we measure are respiratory-related illness (pneumonia, influenza, bronchitis, chronic obstructive pulmonary disease, and asthma); sepsis; congestive heart failure; fractures or fall with a major injury; urinary tract or kidney infection; blood pressure management; electrolyte imbalance; anticoagulant therapy complications; diabetes-related complications; cellulitis or wound infection; pressure ulcer; medication error or adverse drug reaction; and delirium.

- Between 2011 and 2015, the national average for the risk-adjusted community discharge rate increased from 74.0 percent to 76.0 percent (higher rates are better). Our measure of community discharge does not give IRFs credit for discharging a Medicare beneficiary to the community if the beneficiary is subsequently readmitted to an acute care hospital within 30 days of the IRF discharge. The national risk-adjusted rate of discharge to a SNF was essentially unchanged.

Chart 5-4. Dialysis quality of care: Some measures show progress, others need improvement, 2010–2014

Outcome measure	2010	2012	2014
Percent of in-center hemodialysis patients:			
Receiving adequate dialysis	96%	97%	97%
Managing anemia			
Mean hemoglobin 10 to <12 g/dL	60	71	70
Mean hemoglobin ≥12 g/dL*	30	7	5
Mean hemoglobin <10 g/dL	10	22	26
Dialyzed with an AV fistula	56	60	62
Percent of peritoneal dialysis patients:			
Receiving adequate dialysis	88	90	91
Managing anemia			
Mean hemoglobin 10 to <12 g/dL	60	64	61
Mean hemoglobin ≥12 g/dL*	27	7	6
Mean hemoglobin <10 g/dL	14	29	33
Percent of all dialysis patients wait-listed for a kidney	18	18	17
Renal transplant rate per 100 dialysis-patient years	4.1	3.7	3.6
Annual mortality rate per 100 patient years*	18.4	17.2	16.6
Total hospital admissions per patient year*	2.0	1.9	1.7
Hospital days per patient year	12.8	12.0	11.0

Note: g/dL (grams per deciliter [of blood]), AV (arteriovenous). The rate per patient year is calculated by dividing the total number of events by the fraction of the year that patients were followed. Data on dialysis adequacy, anemia management, and fistula utilization represent the share of patients meeting CMS's clinical performance measures. The United States Renal Data System adjusts data by age, gender, race, and primary diagnosis of end-stage renal disease.
*Lower values suggest higher quality.

Source: Compiled by MedPAC with data from Fistula First, the United States Renal Data System, and 2012 and 2014 institutional outpatient files from CMS.

- Quality of dialysis care is mixed. Performance has improved on some measures, but performance on others remains unchanged.

- All hemodialysis patients require vascular access—the site on the patient's body where blood is removed and returned during dialysis. Between 2010 and 2014, use of arteriovenous fistulas, considered the best type of vascular access, increased from 56 percent to 62 percent of hemodialysis patients. Between 2010 and 2014, overall adjusted mortality rates decreased by 9.3 percent (from 18.4 percent to 16.6 percent).

- Between 2010 and 2014, the proportion of hemodialysis patients receiving adequate dialysis remained high. Between 2010 and 2014, overall rates of hospitalization declined.

- Other measures suggest that improvements in dialysis quality are still needed. We looked at access to kidney transplantation because it is widely believed to be the best treatment option for individuals with end-stage renal disease. Between 2010 and 2014, the proportion of dialysis patients accepted on the kidney transplant waiting list remained low, and the renal transplant rate per 100 dialysis-patient years declined.

Chart 5-5. Medicare Advantage quality measures were generally stable between 2014 and 2016

Measures	HMO averages (cost plans included) 2014	2015	2016	Local PPO averages 2014	2015	2016
HEDIS® administrative measures						
Osteoporosis management [a]	29.2[bc]	37.9[a]	40.8[c]	22.7[bc]	39.3[a]	31.9[c]
Rheumatoid arthritis management	76.1[c]	76.7[c]	77.5[c]	80.6[c]	81.1[c]	79.7[c]
HEDIS® hybrid measures						
BMI documented	90.1[bc]	93.3[bc]	93.7[c]	86.5[bc]	90.0[bc]	89.9[c]
Colorectal cancer screening	65.1[bc]	66.9[bc]	68.0	61.8[bc]	63.4[c]	66.9[b]
Controlling blood pressure[d]	65.8[b]	71.1	69.7	63.9[b]	69.0	67.1
Eye exam to check for damage from diabetes[a]	68.8	69.2[a]	70.2[a]	67.3	69.3[a]	69.4[a]
Kidney function testing for members with diabetes[a]	91.4[bc]	92.2[a]	95.8[abc]	89.6[bc]	90.3[a]	94.7[abc]
Diabetics not controlling blood sugar (lower rate better)[a]	24.3[c]	24.2[a]	25.1[a]	25.1[bc]	24.6[ab]	25.4[a]
Measures from HOS[e]						
Advising physical activity	50.3[c]	51.4[bc]	53.3[bc]	48.4[c]	49.4[c]	55.1[bc]
Reducing the risk of falling	62.3[c]	62.2[c]	58.3[bc]	56.5[c]	57.1[c]	53.6[bc]
Other measures based on HOS						
Improving or maintaining physical health	68.8[b]	68.3	67.7	68.3[b]	68.3	68.0
Improving or maintaining mental health	79.1[bc]	78.7[c]	84.6[bc]	80.3[bc]	80.1[c]	85.6[bc]
Measures from CAHPS®						
Annual flu vaccine	72.3[b]	71.7[c]	71.9[c]	73.8	74.1[c]	73.8[c]
Ease of getting needed care and seeing specialists	83.6[bc]	83.0[c]	82.6[c]	85.3[bc]	84.9[c]	84.4[c]
Getting appointments and care quickly	76.0[c]	75.7[c]	75.5[c]	77.2[bc]	76.8[c]	76.8[c]
Overall rating of health care quality	86.0	85.4[bc]	85.8	86.4	86.4[c]	86.0
Overall rating of plan	85.8	85.0[b]	84.8[c]	85.1	84.3[b]	83.5[c]
Care coordination	85.1	84.9[c]	85.0[c]	85.8	85.7[c]	86.0[c]

Note: HMO (health maintenance organization), PPO (preferred provider organization), HEDIS® (Healthcare Effectiveness Data and Information Set, a registered trademark of the National Committee for Quality Assurance (NCQA)), BMI (body mass index), HOS (Health Outcomes Survey), CAHPS® (Consumer Assessment of Healthcare Providers and Systems, a registered trademark of the Agency for Healthcare Research and Quality). Data exclude regional PPOs, private fee-for-service plans, and employer-direct plans. Cost-reimbursed HMO plans are included. HEDIS administrative measures are calculated using administrative data such as claims; hybrid measures can involve sampling medical records to determine a rate. Averages are for all reporting plans in each year; results may therefore differ from those shown in other Commission reporting. The 2015 local PPO rate for osteoporosis management is a correction of the previously reported rate.

[a] NCQA advises caution in the evaluation of the rates for measures for diabetic care in 2016 because of coding changes for identifying beneficiaries with a diagnosis of diabetes. For 2015, NCQA advised caution in the evaluation of the rates for diabetic care and for the osteoporosis management rate because of some data anomalies.

[b] Statistically significant difference in performance from previous year ($p < 0.05$).

[c] Statistically significant difference in performance between HMO and PPO results ($p < 0.05$).

[d] The specifications for this measure changed for the 2015 reporting period such that the result cannot be compared with prior-year results.

[e] Results shown for HEDIS measures taken from the HOS (the two measures listed) include scores for plans not reporting other HEDIS data. Results may therefore differ from those shown in other MedPAC reporting of these scores.

Source: MedPAC analysis of CMS HEDIS public use files for HEDIS measures and star ratings data for measures based on HOS and for CAHPS measures.

(Chart continued next page)

Chart 5-5. Medicare Advantage quality measures were generally stable between 2014 and 2016 (continued)

- The chart displays the simple averages across all plans in each category (HMOs and local PPOs) for each year. The measures listed are included in the measures that CMS uses to develop plan star ratings, which are the basis of quality bonus payments for plans (see Chart 9-12). For star rating purposes, measures have different weights. For example, process measures, such as each of the HEDIS administrative measures in the table, have a weight of 1.0; patient experience measures, including the last five items in the table, have a weight of 1.5.

- The table includes two HEDIS intermediate-outcome measures used in the star ratings: controlling blood pressure (for all patients with hypertension) and diabetics not controlling blood sugar. Neither had statistically significant improvement in the most recent data compared with the prior year (though the NCQA has advised caution in the interpretation of the current measures for diabetes care because of changes in coding affecting diabetes diagnoses). For the HOS-based outcome measures, both HMOs and PPOs performed better in 2016 than 2015 in the measure for improving or maintaining mental health. There continue to be differences between HMO and PPO results in the mental health measure, with PPOs better by a small margin.

- Among HMOs, 4 of the 18 listed measures show statistically significant changes between 2015 and 2016. Two of the four measures improved by 4 percent (kidney function testing for members with diabetes and advising physical activity); one improved by 7 percent (the HOS improvement of mental health measure); and one measure declined by 6 percent (reducing the risk of falling). (Note that percent change is reported rather than percentage point change.) Among local PPOs, 5 of the 18 listed measures showed statistically significant changes in 2016 over 2015: the same 4 as for HMOs plus the colorectal cancer screening measure. For local PPOs, the kidney function testing measure improved by 5 percent, and the HOS mental health improvement measure improved by 7 percent (for this latter measure, the same percentage improvement as for HMOs). Two measures showed greater improvement among local PPOs: the kidney function testing measure, at 5 percent versus 4 percent for HMOs; and the advising physical activity measure, at 12 percent for local PPOs and 4 percent for HMOs. For local PPOs, the colorectal cancer screening measure improved by 6 percent and is now very close to the rate for HMOs. The one measure that declined among local PPOs—reducing the risk of falling—declined by 6 percent, the same percentage as among HMOs.

- In 2016, 12 of the 18 listed measures showed statistically significant differences in performance between HMOs and PPOs. Six of the 12 measures had a difference of 3 percent or more (which can be thought of as a meaningful difference) between the two plan types. Half of the six measures were better among HMOs, and half were better among local PPOs. HMOs had better performance in osteoporosis management (22 percent better among HMOs), BMI documented (4 percent better), and reducing the risk of falling (8 percent better). The measures for which local PPOs showed better performance of at least 3 percent were rheumatoid arthritis management, advising physical activity, and annual flu vaccination.

Chart 5-6. Between 34 and 72 low-value services provided per 100 FFS beneficiaries in 2014; Medicare spent between $2.4 billion and $6.5 billion on these services

	Broader version of measures			Narrower version of measures		
Measure	Count per 100 beneficiaries	Share of beneficiaries affected	Spending (millions)	Count per 100 beneficiaries	Share of beneficiaries affected	Spending (millions)
Imaging for nonspecific low back pain	12.0	8.9%	$232	3.4	3.1%	$66
PSA screening at age ≥75 years	9.0	6.2	79	5.1	4.2	44
Colon cancer screening for older adults	8.0	7.5	405	0.3	0.3	3
Spinal injection for low back pain	6.6	3.3	1,261	3.4	2.0	643
Carotid artery disease screening in asymptomatic adults	5.1	4.6	268	4.2	3.8	221
Preoperative chest radiography	4.6	4.1	67	1.1	1.1	17
PTH testing in early CKD	4.5	2.6	83	3.9	2.3	71
Stress testing for stable coronary disease	4.3	4.1	1,198	0.5	0.5	137
T3-level testing for patients with hypothyroidism	3.8	2.2	23	3.8	2.2	23
Head imaging for headache	3.6	3.3	242	2.4	2.2	160
Cervical cancer screening at age >65 years	2.2	2.2	44	1.9	1.9	39
Homocysteine testing in cardiovascular disease	1.5	1.2	12	0.4	0.3	3
Head imaging for syncope	1.2	1.1	78	0.8	0.7	51
Preoperative echocardiography	0.8	0.8	62	0.2	0.2	19
Preoperative stress testing	0.6	0.6	177	0.2	0.2	60
Screening for carotid artery disease for syncope	0.6	0.6	33	0.4	0.4	23
CT for rhinosinusitis	0.6	0.5	39	0.2	0.2	17
Vitamin D testing in absence of hypercalcemia or decreased kidney function	0.5	0.4	8	0.5	0.4	8
Imaging for plantar fasciitis	0.5	0.4	9	0.4	0.3	6
BMD testing at frequent intervals	0.4	0.4	9	0.3	0.3	6
Cancer screening for patients with CKD on dialysis	0.4	0.3	9	0.1	0.1	1
PCI/stenting for stable coronary disease	0.3	0.3	1,284	0.1	0.1	216
Arthroscopic surgery for knee osteoarthritis	0.2	0.2	204	0.1	0.1	108
Vertebroplasty	0.2	0.2	338	0.2	0.2	327
Preoperative PFT	0.2	0.2	2	0.1	0.1	1
Hypercoagulability testing after DVT	0.2	0.1	5	0.1	0.1	2
IVC filter placement	0.1	0.1	33	0.1	0.1	33
Carotid endarterectomy for asymptomatic patients	0.1	0.1	165	0.03	0.03	66
EEG for headache	0.1	0.1	4	0.04	0.04	2
Renal artery stenting	0.1	0.1	152	0.02	0.02	51
Pulmonary artery catheterization in ICU	0.01	0.01	0.2	0.01	0.01	0.2
Total	**72.2**	**37.4**	**6,526**	**34.2**	**22.5**	**2,425**

(Chart continued next page)

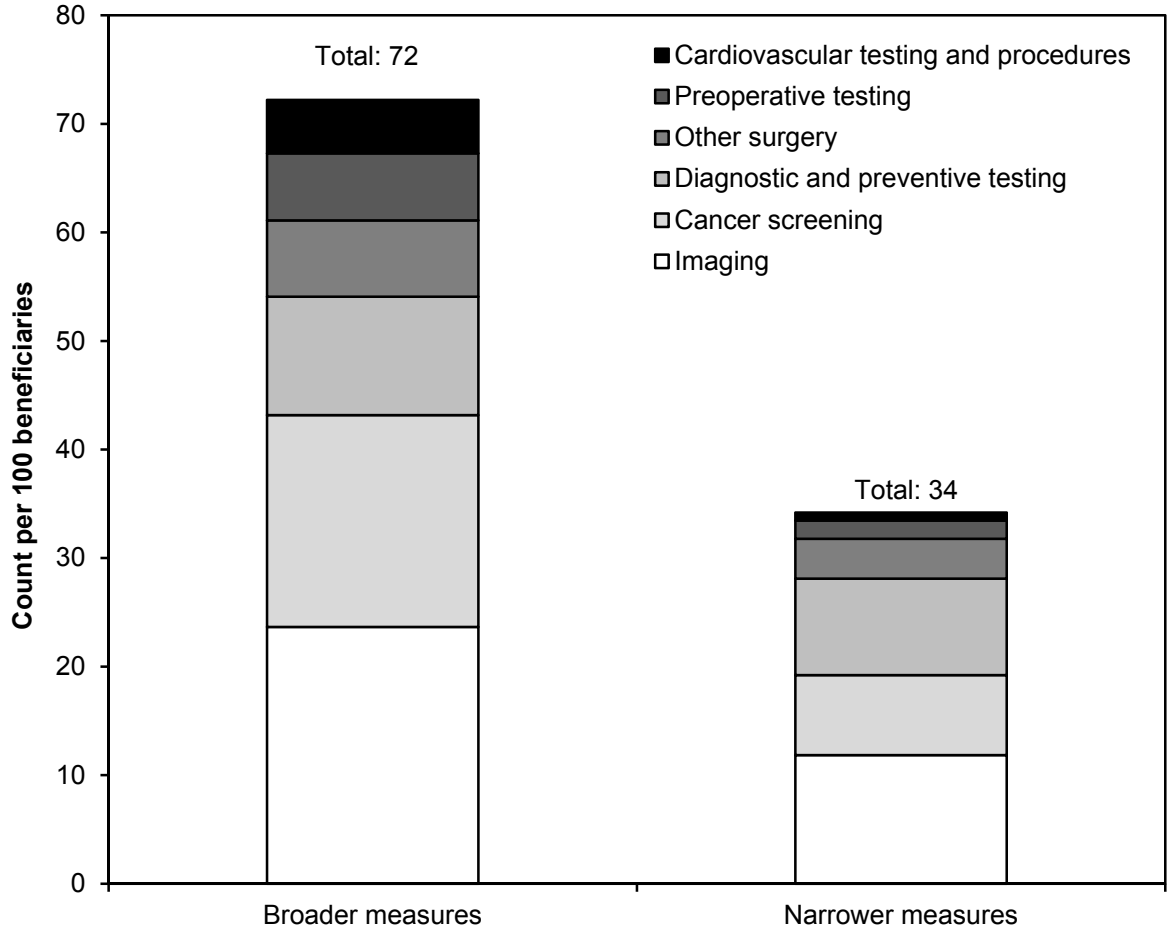
Chart 5-6. Between 34 and 72 low-value services provided per 100 FFS beneficiaries in 2014; Medicare spent between $2.4 billion and $6.5 billion on these services (continued)

Note: FFS (fee-for-service), PSA (prostate-specific antigen), PTH (parathyroid hormone), CKD (chronic kidney disease), CT (computed tomography), BMD (bone mineral density), PCI (percutaneous coronary intervention), PFT (pulmonary function test), DVT (deep vein thrombosis), IVC (inferior vena cava), EEG (electroencephalography), ICU (intensive care unit). "Count" refers to the number of unique services. Numbers may not sum to totals due to rounding. The totals for share of beneficiaries affected do not equal the column sums because some beneficiaries received services covered by multiple measures. Spending includes Medicare Part A and Part B program spending and beneficiary cost sharing for services detected by measures of low-value care. Spending is based on a standardized price for each service from 2009 that was updated to 2014.

Source: MedPAC analysis of 100 percent of Medicare claims using measures developed by Aaron Schwartz and colleagues (Schwartz, A. L., B. E. Landon, A. G. Elshaug, et al. 2014. Measuring low-value care in Medicare. *JAMA Internal Medicine* 174: 1067–1076; Schwartz, A. L., M. E. Chernew, B.E. Landon, et al. 2015. Changes in low-value services in year 1 of the Medicare Pioneer Accountable Care Organization Program. *JAMA Internal Medicine* 175: 1815–1825).

- Low-value care is the provision of a service that has little or no clinical benefit, or care in which the risk of harm from the service outweighs its potential benefit.
- The 31 measures of low-value care in this chart were developed by a team of researchers. The measures are drawn from evidence-based lists—such as Choosing Wisely—and the medical literature. We applied these measures to 100 percent of Medicare claims data from 2014. These 31 measures do not represent *all* instances of low-value care; the actual number (and corresponding spending) may be much higher.
- The researchers developed two versions of each measure: a broader one with higher sensitivity (and lower specificity) and a narrower one with lower sensitivity (and higher specificity). Increasing the sensitivity of a measure captures more potentially inappropriate use but is also more likely to misclassify some appropriate use as inappropriate. Increasing a measure's specificity leads to less misclassification of appropriate use as inappropriate at the expense of potentially missing some instances of inappropriate use.
- Based on the broader versions of the measures, there were about 72 instances of low-value care per 100 beneficiaries in 2014, and about 37 percent of beneficiaries received at least one low-value service. Medicare spending for these services was $6.5 billion. Based on the narrower versions of the measures, there were about 34 instances of low-value care per 100 beneficiaries, and almost 23 percent of beneficiaries received at least one low-value service. Medicare spending for these services totaled about $2.4 billion.

Chart 5-7. Between 34 and 72 low-value services provided per 100 FFS beneficiaries in 2014

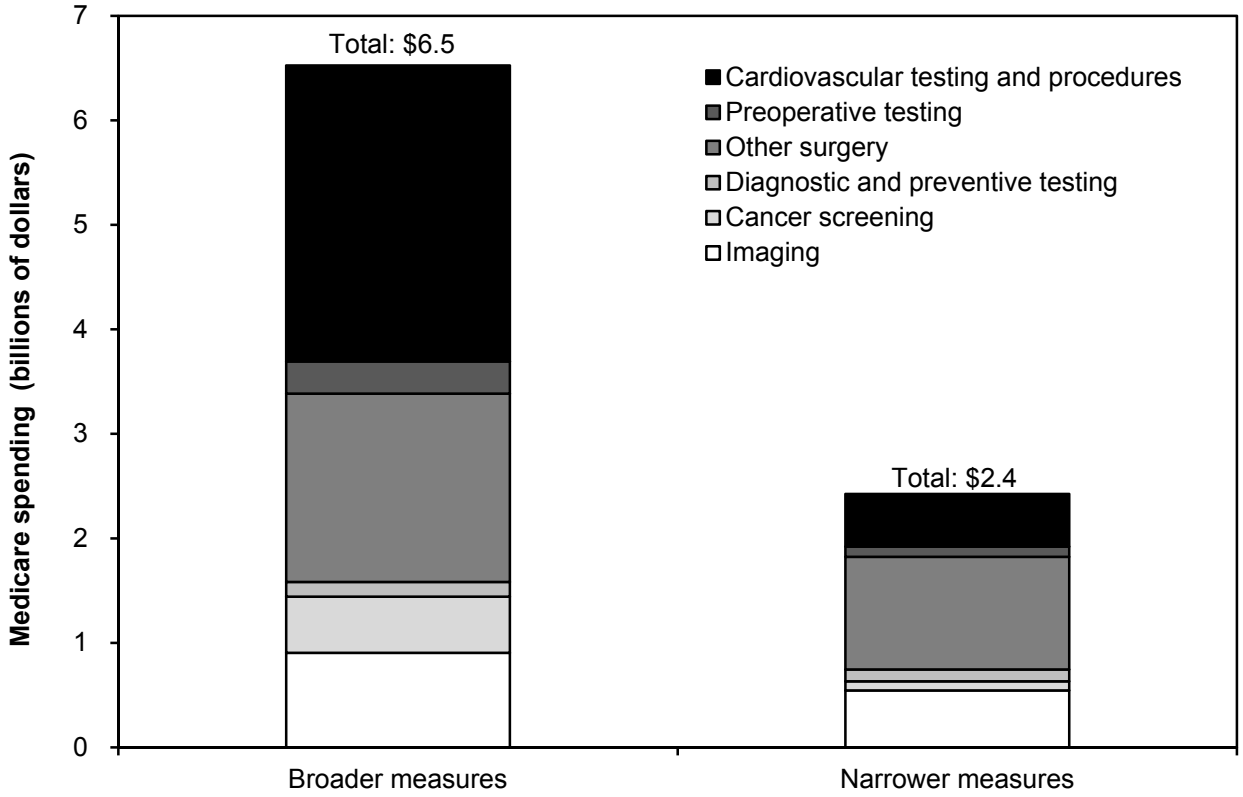


Note: FFS (fee-for-service). "Count" refers to the number of unique services provided to FFS Medicare beneficiaries.

Source: MedPAC analysis of 100 percent of Medicare claims using measures developed by Aaron Schwartz and colleagues. (Schwartz, A. L., B. E. Landon, A. G. Elshaug, et al. 2014. Measuring low-value care in Medicare. *JAMA Internal Medicine* 174: 1067–1076; Schwartz, A. L., M. E. Chernew, B. E. Landon, et al. 2015. Changes in low-value services in year 1 of the Medicare Pioneer Accountable Care Organization Program. *JAMA Internal Medicine* 175: 1815–1825).

- We assigned each of the 31 measures of low-value care from Chart 5-6 to 1 of 6 clinical categories.
- Imaging and cancer screening accounted for 60 percent of the volume of low-value care per 100 beneficiaries among the broader versions of the measures. The "imaging" category includes back imaging for patients with nonspecific low back pain and screening for carotid artery disease in asymptomatic adults. The cancer screening category includes prostate-specific antigen testing for men age 75 or older and colorectal cancer screening for older adults.
- Among the narrower versions of the measures, imaging and diagnostic and preventive testing accounted for 61 percent of the volume of low-value care per 100 beneficiaries.

Chart 5-8. At a minimum, Medicare spent between $2.4 billion and $6.5 billion on low-value care in 2014



Note: Spending includes Medicare Part A and Part B program spending and beneficiary cost sharing for services detected by measures of low-value care. To estimate spending, we used standardized prices to adjust for regional differences in payment rates. The standardized price is the median payment amount per service in 2009, adjusted for the increase in payment rates between 2009 and 2014. This method was developed by Schwartz et al. (2014).

Source: MedPAC analysis of 100 percent of Medicare claims using measures developed by Aaron Schwartz and colleagues. (Schwartz, A. L., B. E. Landon, A. G. Elshaug, et al. 2014. Measuring low-value care in Medicare. *JAMA Internal Medicine* 174: 1067–1076; Schwartz, A. L., M. E. Chernew, B.E. Landon, et al. 2015. Changes in low-value services in year 1 of the Medicare Pioneer Accountable Care Organization Program. *JAMA Internal Medicine* 175: 1815–1825).

- Cardiovascular testing and procedures and other surgery accounted for 71 percent of total spending on low-value care using the broader measures. Other surgery and imaging made up two-thirds of spending on low-value care using the narrower measures.

- The "cardiovascular testing and procedures" category includes stress testing for stable coronary disease and percutaneous coronary intervention with balloon angioplasty or stent placement for stable coronary disease. The "other surgery" category includes spinal injection for low back pain and arthroscopic surgery for knee osteoarthritis. The "imaging" category includes back imaging for patients with nonspecific low back pain and screening for carotid artery disease in asymptomatic adults.

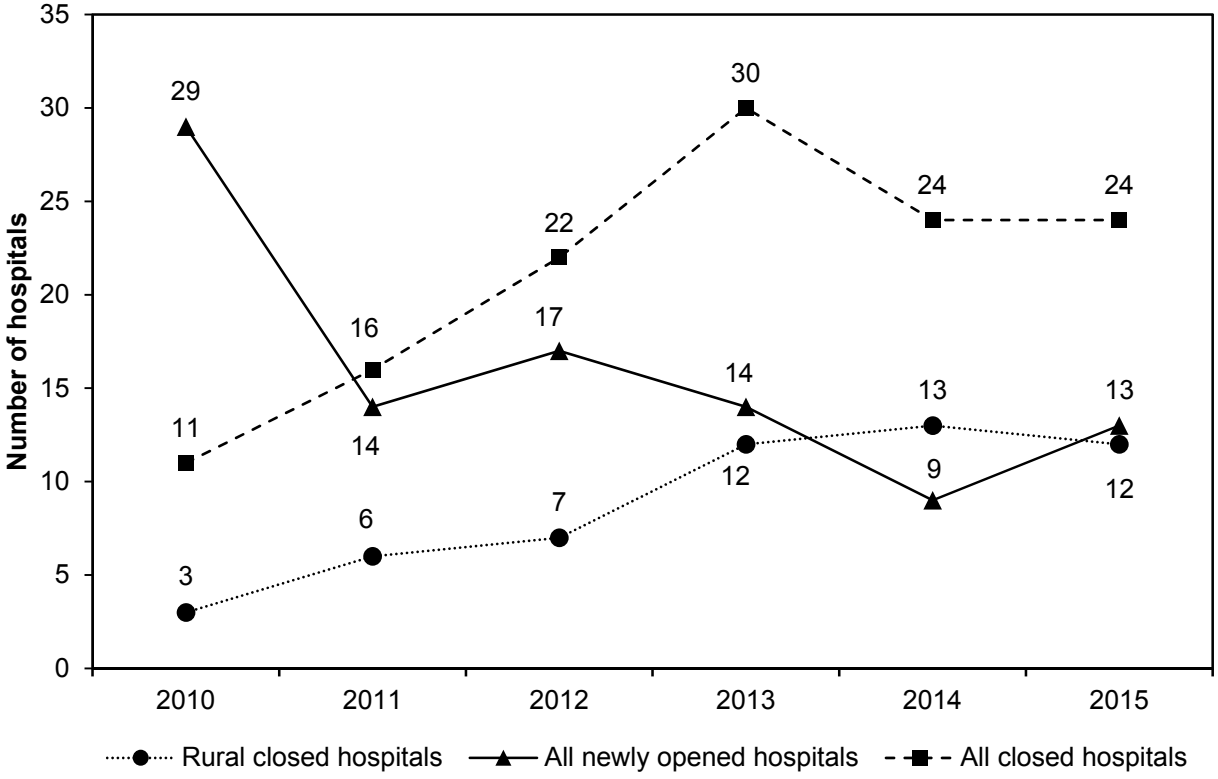
- The spending estimates probably understate actual spending on low-value care because they do not include downstream services (e.g., follow-up tests and procedures) that may result from the initial low-value service. Also, we are not capturing *all* low-value care through these 31 measures.

SECTION 6

Acute inpatient services

Short-term hospitals
Inpatient psychiatric facilities

Chart 6-1. Annual changes in number of acute care hospitals participating in the Medicare program, 2010–2015



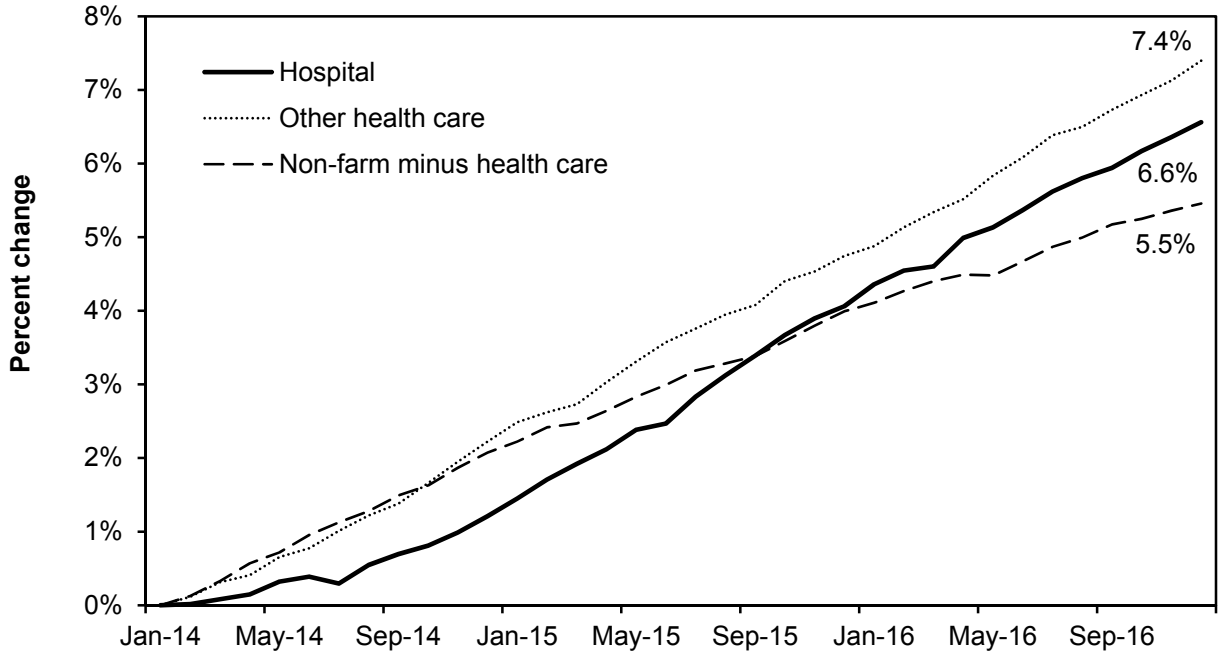
Note: "Hospitals" refers to general short-term acute care hospitals. The Commission's reported number of open and closed hospitals can change from year to year based on hospitals that enter Medicare as an acute care facility and later convert to a more specialized type of facility, such as a long-term care hospital or critical access hospital.

Source: MedPAC analysis of CMS's Provider of Service file, inpatient prospective payment system final rule impact file, and hospital cost reports.

- The number of hospital closures exceeded the number of openings in 2015, with 24 acute care hospitals closing (less than 1 percent of all acute care hospitals participating in the Medicare program) and 13 hospitals starting participation in the Medicare program.

- In 2015, rural hospital closures accounted for half of all hospital closures. Roughly a dozen rural hospitals have closed in each of the three most recent years (2013 to 2015). Rural hospital closures could in part reflect declining inpatient volume at many rural hospitals.

Chart 6-2. Percent change in hospital employment, 2014–2016



Source: MedPAC analysis of Bureau of Labor Statistics, Current Employment Statistics data set as of March 2017.

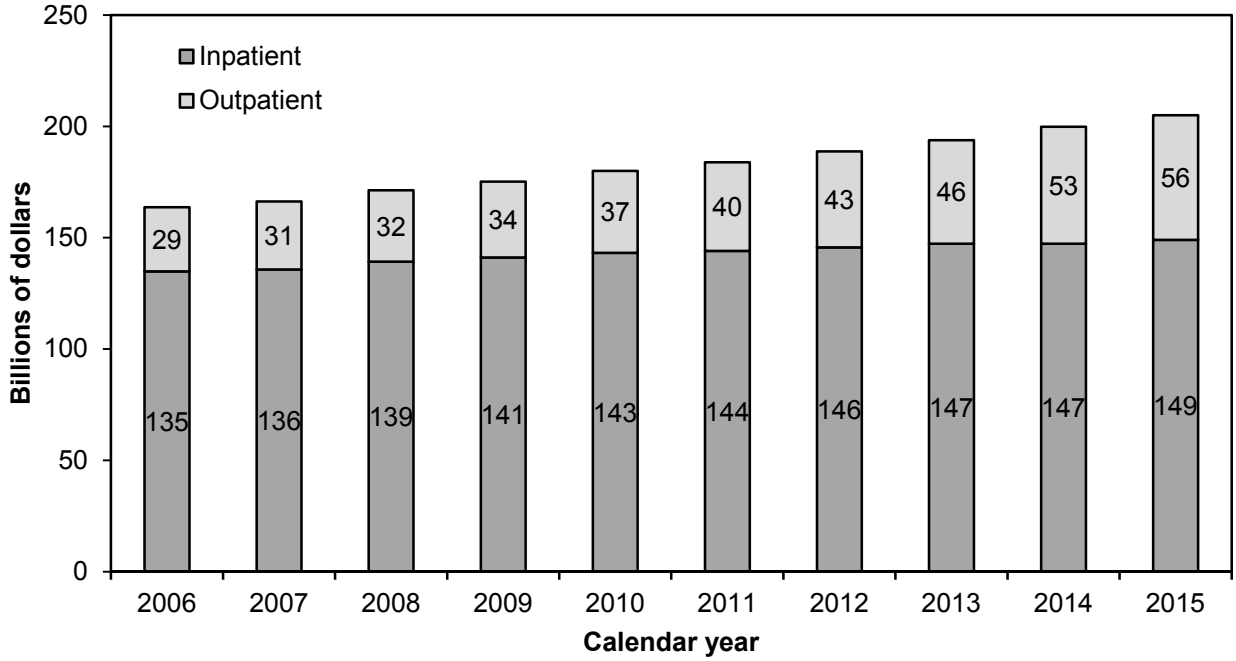
- The Bureau of Labor Statistics survey of current employment data concludes that the number of individuals employed within the hospital industry directly increased 6.6 percent from January 2014 to December 2016.

- In the most recent year (from 2015 to 2016), hospital employment increased 2.1 percent, the rest of the health care sector increased 2.4 percent, and employment across the rest of the economy (non-farm minus health care) increased 1.3 percent.

- From 2014 to 2016, the number of hospital staff in health care clinical and technical occupations overall increased 5 percent (data not shown). Within this category, larger than average increases occurred for physician assistants (18 percent); pharmacists (8 percent); and registered nurses (6 percent). Licensed practical nurses/licensed vocational nurses were among the few occupations in this category with a decline in employment (–8 percent).

- From 2014 to 2016, the number of hospital staff in nonclinical occupations increased for just a few occupational categories: community and social services (10 percent); computer and math science (9 percent); and business and finance (6 percent). By contrast, the number of employed individuals declined in occupational categories such as management (–2 percent); building and grounds (–1 percent); and food service (–1 percent). Some of these functions may have been outsourced in recent years.

Chart 6-3. Growth in Medicare's FFS payments for hospital inpatient and outpatient services, 2006–2015



Note: FFS (fee-for-service). Analysis includes inpatient services covered by the acute inpatient prospective payment system (PPS); psychiatric, rehabilitation, long-term care, cancer, and children's hospitals and units; outpatient services covered by the outpatient PPS; and other outpatient services. Payments include program outlays and beneficiary cost sharing, including hospital cost sharing for beneficiaries eligible for Medicare through end-stage renal disease.

Source: CMS, Office of the Actuary.

- Aggregate Medicare FFS inpatient spending was $149 billion and outpatient spending was $56 billion in 2015. From 2014 to 2015, inpatient spending increased 1.2 percent, while outpatient spending increased nearly 7.4 percent.
- From 2008 to 2011, the growth in inpatient and outpatient spending began to increase from previous years. However, in 2011 inpatient spending growth slowed as outpatient spending grew significantly.
- Outpatient spending has increased as a share of total Medicare hospital spending in the past 10 years. In 2006, outpatient spending accounted for almost 18 percent of all hospital spending; in 2015, outpatient spending grew to over 27 percent of total Medicare hospital spending.

Chart 6-4. Share of Medicare acute care hospital inpatient discharges by hospital group, 2015

Hospital group	Hospitals		Medicare discharges	
	Number	Share of total	Number (thousands)	Share of total
All PPS and CAHs	4,624	100%	9,586	100%
CAHs	1,340	29.0	326	3.4
PPS hospitals	3,284	71.0	9,260	96.6
Urban (PPS only)	2,452	53.0	8,269	86.3
Large urban	1,340	29.0	4,505	47.0
Other urban	1,112	24.1	3,764	39.3
Rural (PPS only)	832	18.0	991	10.3
Rural referral	94	2.0	232	2.4
Sole community	375	8.1	489	5.1
Medicare dependent	141	3.1	106	1.1
Other rural, <50 beds	113	2.4	45	0.5
Other rural, ≥50 beds	109	2.4	119	1.2
Tax status (PPS only)				
Voluntary	1,887	41.0	6,461	67.4
Proprietary	877	19.0	1,691	17.6
Government	520	11.3	1,108	11.6
Teaching status (PPS only)				
Major teaching	302	6.5	1,629	17.0
Other teaching	750	16.2	3,490	36.4
Nonteaching	2,232	48.3	4,141	43.2

Note: PPS (prospective payment system), CAH (critical access hospital). Maryland hospitals are excluded. Large urban areas are those with populations of more than 1 million. Major teaching hospitals are defined by a ratio of interns and residents to beds of at least 0.25. Other teaching hospitals have a ratio below 0.25. Data are limited to providers with complete 2014 cost reports. Hospitals in urban, rural, tax status, and teaching status categories are all PPS hospitals. Components may not sum to totals due to rounding.

Source: MedPAC analysis of PPS impact files and Medicare cost report data from CMS.

- In 2015, 3,284 hospitals provided almost 9.3 million discharges under Medicare's acute inpatient PPS, and 1,340 CAHs provided 326,000 discharges. The number of PPS discharges increased slightly from 2014 to 2015, in part because of an increase in the number of Medicare beneficiaries (data not shown).

- Approximately 13.2 percent of PPS hospitals are covered by three special payment provisions (rural referral centers (RRCs), sole community hospitals (SCHs), and Medicare-dependent hospitals (MDHs)) intended to help rural facilities that are not CAHs; these facilities account for 8.6 percent of all discharges.

- About 90 percent of rural hospitals were paid through the CAH, RRC, SCH, or MDH program in 2015. Collectively, these four types of hospitals accounted for 88 percent of all rural Medicare discharges (not shown in chart).

Chart 6-5. Change in share of discharges by major diagnostic categories, 2006 to 2015

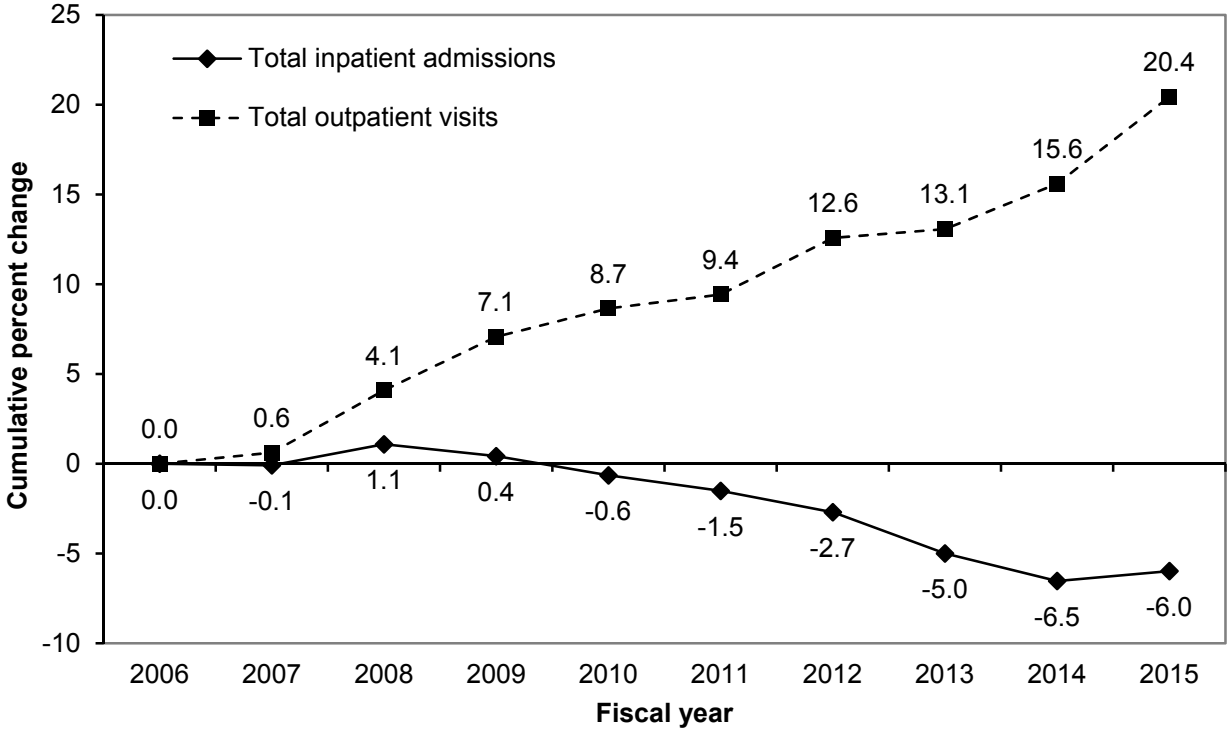
MDC number	MDC name	Share of all discharges 2006	Share of all discharges 2015	Percentage point change
5	Circulatory system	27%	20%	–7
4	Respiratory system	14	14	0
8	Musculoskeletal system	12	14	2
6	Digestive system	11	11	0
1	Nervous system	8	8	0
18	Infectious and parasitic diseases	4	9	5
11	Kidney and urinary tract	6	8	2
10	Endocrine, nutritional and metabolic	4	4	0
7	Hepatobiliary system and pancreas	3	3	0
9	Skin, subcutaneous tissue and breast	3	2	–1
	Total	92	93	1

Note: MDC (major diagnostic category). Numbers may not sum to totals due to rounding.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- In 2015, 10 major diagnostic categories accounted for 93 percent of all discharges from hospitals paid under the inpatient prospective payment system.
- Circulatory system cases accounted for one-fifth of all inpatient discharges in 2015, a decline of 7 percentage points from 2006.
- Musculoskeletal system cases accounted for 14 percent of all inpatient discharges in 2015, up 2 percentage points from 2006.
- Infectious and parasitic disease cases accounted for 9 percent of all inpatient discharges in 2015, up 5 percentage points from 2006.
- Kidney and urinary tract cases accounted for 8 percent of all inpatient discharges in 2015, up 2 percentage points from 2006.

Chart 6-6. Cumulative change in all-payer hospital outpatient visits and inpatient admissions, 2006–2015

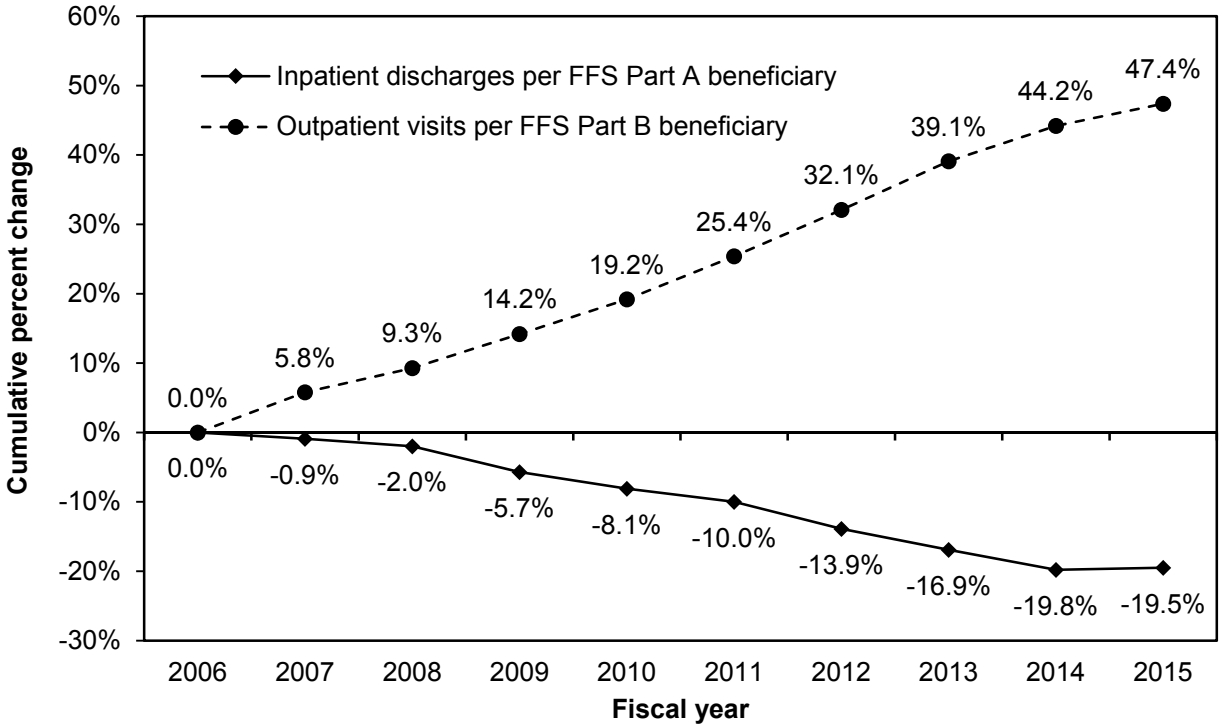


Note: Cumulative change is the total percent increase from 2006 through 2015. Data are admissions to and outpatient visits at about 5,000 community hospitals.

Source: American Hospital Association, AHA Hospital Statistics.

- In 2015, community hospitals provided a total of nearly 722 million outpatient visits and 33 million inpatient admissions across all patients (not shown in chart).
- All-payer hospital outpatient service use grew rapidly from 2006 to 2015, while inpatient service use declined overall. From 2006 to 2015, the number of outpatient visits increased about 20 percent. By contrast, over the same period, the number of all-payer inpatient admissions declined 6 percent.
- All-payer outpatient and inpatient service use both increased from 2014 to 2015. Over this period, the number of outpatient visits increased 4.8 percentage points, and the number of inpatient admissions increased 0.5 percentage points, the first annual increase in inpatient admissions in since 2008.

Chart 6-7. Cumulative change in Medicare outpatient visits and inpatient discharges per FFS beneficiary, 2006–2015

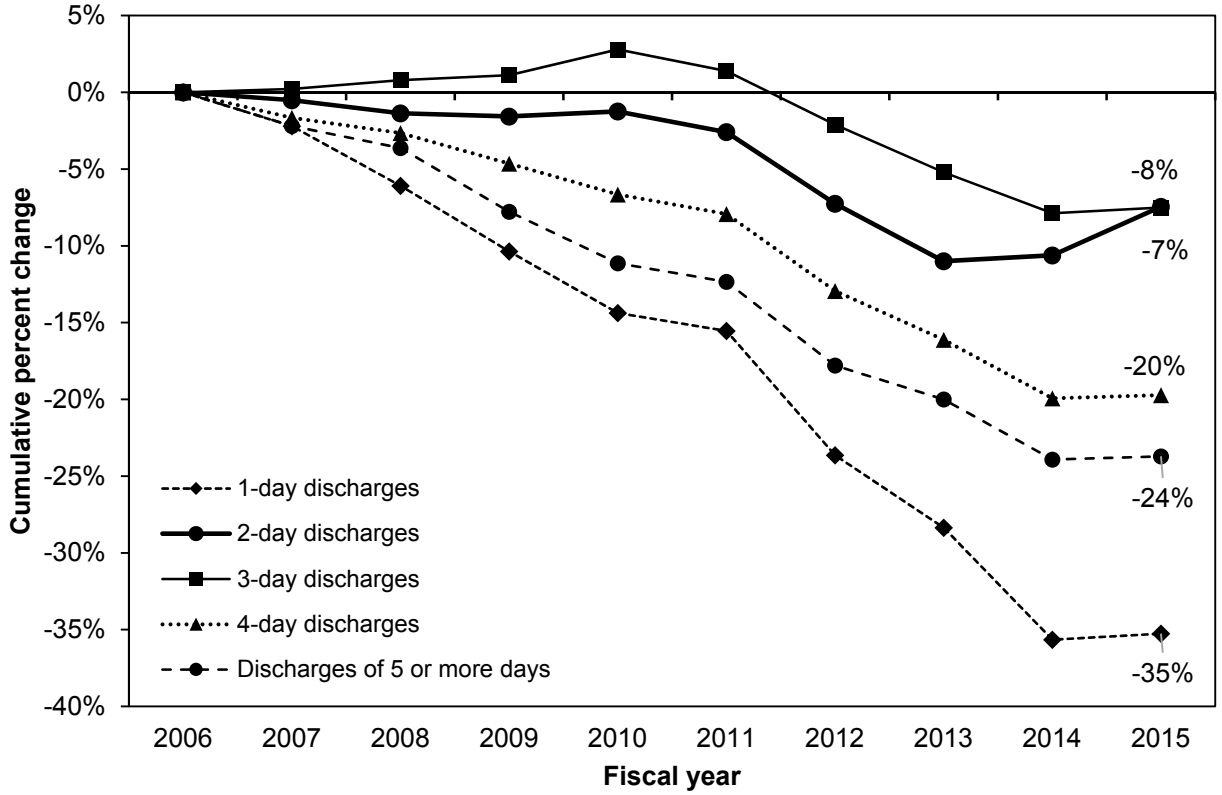


Note: FFS (fee-for-service). Data are for short-term general and surgical hospitals, including critical access and children's hospitals.

Source: MedPAC analysis of Medicare Provider Analysis and Review and hospital outpatient claims data from CMS.

- In 2015, Medicare accounted for approximately 52 million outpatient visits and 10 million inpatient admissions (not shown in chart).
- From 2006 to 2015, the number of Medicare outpatient visits per beneficiary increased about 47 percent. By contrast, over the same period, the number of Medicare inpatient admissions per beneficiary declined nearly 20 percent.
- Together, these two trends suggest a shift in services from the inpatient to the outpatient setting. The growth in outpatient services also reflects a shift in some services from those provided in physician offices to those being billed as outpatient hospital services.
- From 2014 to 2015, the number of Medicare outpatient services per FFS beneficiary increased 3.2 percentage points, and Medicare inpatient discharges per FFS beneficiary increased 0.3 percentage points. Compared with growth in recent prior years, outpatient visits increased slightly slower and inpatient discharges increased for the first time in eight years. On net, from 2014 to 2015, the demand for all hospital services increased.

Chart 6-8. Cumulative change in Medicare inpatient discharges per FFS beneficiary, by length of stay, 2006–2015



Note: FFS (fee-for-service). Data are for short-term general and surgical hospitals, including critical access and children's hospitals.

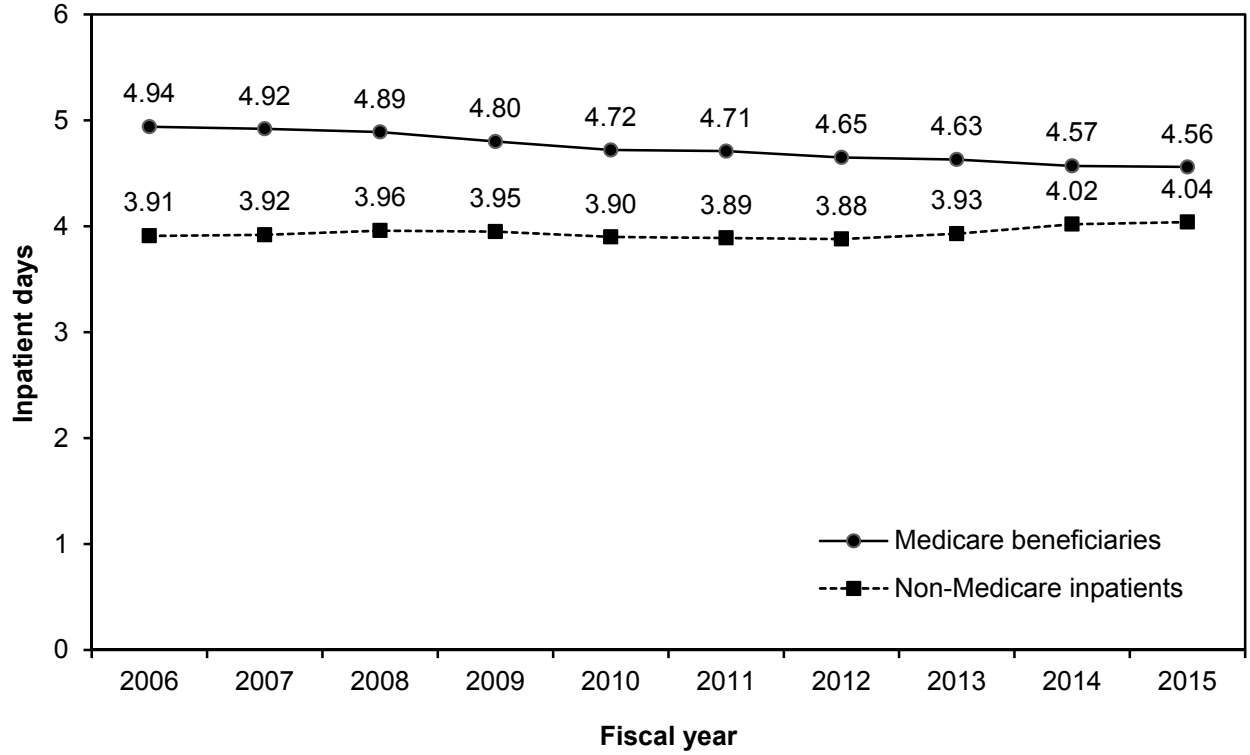
Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- From 2013 to 2015, the number of two-day inpatient discharges increased 4 percent (number not shown in chart), the only length-of-stay category to experience an increase during a period when the number of inpatient discharges overall was declining rapidly. This finding might reflect changes in Medicare's guidance in 2013 regarding the appropriateness of admissions. In 2015, there were approximately 1.8 million 2-day discharges, representing 16 percent of all discharges (data not shown).

- From 2013 to 2015, the number of one-day inpatient discharges declined nearly 10 percent per FFS beneficiary. In 2015, there were approximately 1.2 million 1-day inpatient discharges, representing 11 percent of all discharges (data not shown).

- From 2013 to 2015, the number of three-day inpatient discharges declined 2 percent. In 2015, there were approximately 1.9 million 3-day discharges, representing 18 percent of all discharges (data not shown).

Chart 6-9. Trends in Medicare inpatient and non-Medicare inpatient length of stay, 2006–2015



Note: Length of stay is calculated from discharges and patient days for more than 3,000 hospitals covered by the acute inpatient prospective payment system. Chart excludes critical access hospitals.

Source: MedPAC analysis of Medicare cost report data from CMS.

- In 2015, the average length of inpatient stays for Medicare beneficiaries was approximately one-half a day longer than for non-Medicare inpatients. In 2006, the difference was more than a full day.
- The average length of inpatient stays for Medicare beneficiaries was flat between 2014 and 2015.
- While Medicare length of stay fell between 2006 and 2015, the average length of stay for non-Medicare inpatients increased. Between 2006 and 2015, Medicare inpatient length of stay fell 7.7 percent and the inpatient length of stay for all non-Medicare inpatients increased 3.3 percent.

Chart 6-10. Share of inpatient admissions preceded by emergency department visit by location, 2006–2015

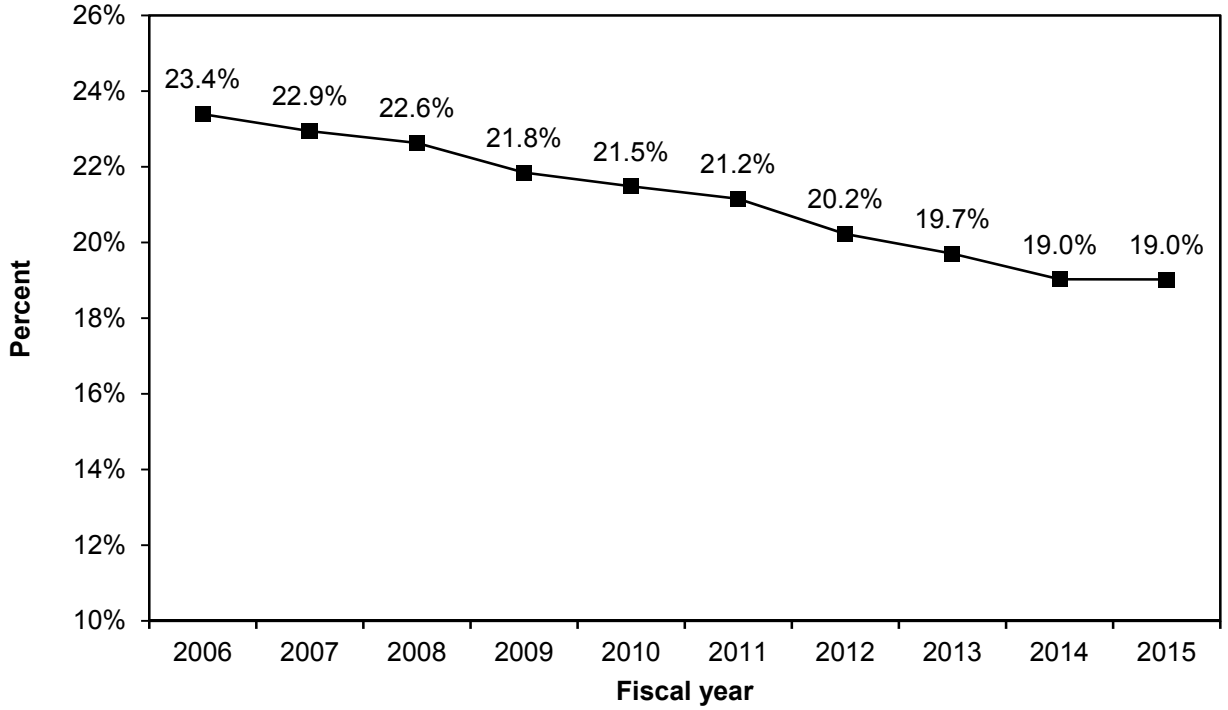
	Percent 2015	Average annual percent change 2006–2014	Percent change 2014–2015
All hospitals	72.5%	1.7%	1.7%
Urban	72.1	1.7	1.7
Large urban	73.5	1.5	1.2
Other urban	70.6	2.0	2.4
Rural	75.7	1.9	1.6
Rural referral	75.8	1.9	2.1
Sole community	75.1	1.9	1.4
Medicare dependent	78.3	1.9	2.4
Other rural, <50 beds	65.6	1.0	–0.4
Other rural, ≥50 beds	79.4	2.1	1.6
Tax status			
Voluntary	72.5	1.6	1.7
Proprietary	73.8	1.9	1.7
Government	70.5	2.1	1.4
Teaching status			
Major teaching	64.8	1.5	1.8
Other teaching	71.5	1.8	1.8
Nonteaching	76.4	1.8	1.5

Note: Years are fiscal years. Analysis excludes Medicare Advantage claims and claims for non–inpatient prospective payment system hospitals such as critical access hospitals and hospitals located in Maryland. Large urban areas are those with populations of more than 1 million. Major teaching hospitals are defined by a ratio of interns and residents to beds of at least 0.25. Other teaching hospitals have a ratio below 0.25.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- In 2015, approximately 73 percent of inpatient admissions entered the hospital through the emergency department (ED).
- From 2014 to 2015, the share of inpatient admissions entering the hospital through the ED increased nearly 2 percent, the same as the average annual rate of increase from 2006 to 2014.
- The share of inpatient admissions preceded by an ED visit is consistently higher for rural hospitals than for urban hospitals. In 2015, nearly 76 percent of inpatient admissions provided at rural hospitals were preceded by an ED visit. By contrast, approximately 72 percent of inpatient admissions provided at urban hospitals were preceded by an ED visit.

Chart 6-11. Share of Medicare Part A fee-for-service beneficiaries with at least one hospitalization, 2006–2015

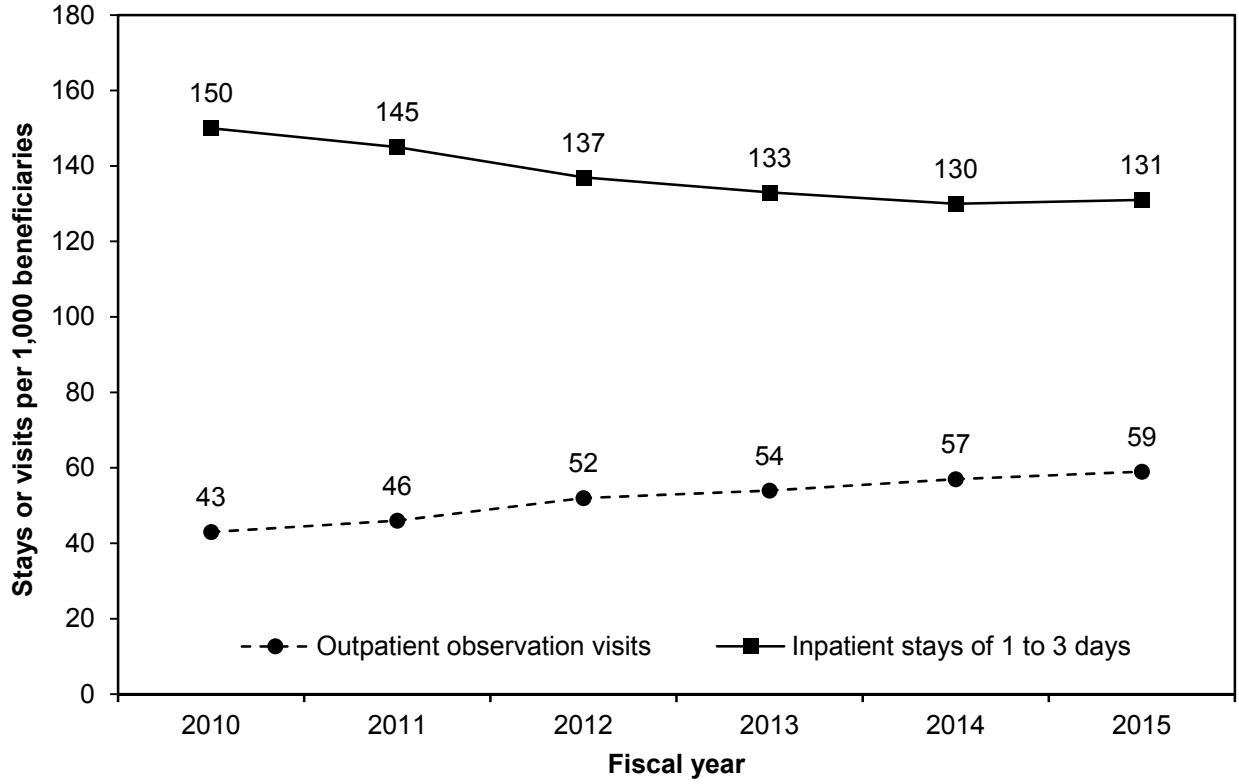


Note: Analysis excludes Medicare Advantage claims and claims for non–inpatient prospective payment system hospitals such as critical access hospitals and hospitals located in Maryland.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- From 2006 to 2015, the share of Medicare fee-for-service beneficiaries with Part A coverage who had at least one inpatient hospitalization declined 4.4 percentage points, from more than 23 percent of beneficiaries to 19 percent of beneficiaries.
- From 2014 to 2015, the share of Medicare fee-for-service beneficiaries with Part A coverage who had at least one inpatient hospitalization was unchanged.
- Medicare fee-for-service beneficiaries with Part A coverage who used inpatient hospital services in 2015 had an average of 1.69 inpatient claims over the course of the year (not shown in chart), a decline of approximately 2 percent from 1.73 inpatient claims per year in 2006.
- A portion of the long-term decline in beneficiaries' utilization of inpatient services could reflect the increase in the number of cases in which beneficiaries are served in outpatient observation status.

Chart 6-12. Number of Medicare outpatient observation visits per 1,000 beneficiaries relative to short inpatient stays, 2010 to 2015



Source: Medicare hospital cost reports and Medicare outpatient claims data.

- In 2015, Medicare paid for approximately 2 million outpatient observation visits (data not shown).
- From 2010 to 2015, the increase in the number of outpatient observation visits (16 visits per 1,000 beneficiaries) was similar to the combined decline in inpatient discharges lasting between 1 and 3 days (19 discharges per 1,000 beneficiaries). This finding suggests that outpatient observation visits may account for a portion of the decline in short inpatient discharges.
- In 2015, the average length of an outpatient observation visit was 28.1 hours (not shown in chart).
- In 2015, nearly 240,000 outpatient observation visits were 48 hours or longer, representing approximately 12 percent of all observation stays (not shown in chart).

Chart 6-13. Hospital patient experience measures, 2011–2015

H–CAHPS® measure	2011	2012	2013	2014	2015	Percentage point change, 2011–2015
Hospital rating	69%	70%	71%	71%	72%	3
Communication with nurses	77	78	79	79	80	3
Communication with doctors	81	81	82	82	82	1
Responsiveness of hospital staff	65	67	68	68	68	3
Communication about medicines	62	64	64	65	65	3
Cleanliness of hospital environment	72	73	74	74	74	2
Quietness of hospital environment	59	60	61	62	62	3
Discharge information	83	85	86	86	87	4
Recommend the hospital	70	71	71	71	72	2
Care transition*	--	--	51	52	52	--

Note: H–CAHPS® (Hospital Consumer Assessment of Healthcare Providers and Systems®). H–CAHPS is a standardized 32-item survey of patients' evaluations of hospital care. The survey items are combined to calculate measures of patient experience for each hospital. The H–CAHPS measures included in the table are "top-box," or the most positive, response to H–CAHPS survey items. The top-box response is "Always" for four H–CAHPS composite measures (communication with nurses, communication with doctors, responsiveness of hospital staff, and communication about medicines) and two individual items (cleanliness of hospital environment and quietness of hospital environment), "Yes" for the discharge information composite, "'9' or '10' (high)" for the hospital rating item, "Definitely yes" for the recommend the hospital item, and "Strongly agree" for the care transition composite. Each year's results are based on a sample of hospital surveys of their patients from January to December. About 4,239 hospitals are included, and, on average, these hospitals had patient-level survey response rates of 29 percent.

*The care transition measure was added to the H–CAHPS survey in 2013, and CMS began publicly reporting it in 2014.

Source: CMS summary of H–CAHPS public report of survey results tables.

- In 2008, CMS began publicly reporting H–CAHPS results on the Hospital Compare website. In 2013, Medicare began the value-based purchasing program, which makes incentive payments to hospitals based on the outcomes of certain quality measures. This program incorporates results from H–CAHPS.
- The share of patients who rated their hospital a 9 or 10 on a 10-point scale increased from 69 percent in 2011 to 72 percent in 2015.
- All nine hospital patient experience measures improved from 2011 to 2015. Five of the measures (hospital rating, communication with nurses, responsiveness of hospital staff, communication about medicines, quietness of hospital environment) had a difference of 3 percentage points. Discharge information improved by 4 percentage points.

Chart 6-14. Potentially preventable readmission rates for selected conditions, 2010–2015

Reason for initial admission	2010	2011	2012	2013	2014	2015	Percentage point change 2010–2015
All	12.9%	12.4%	11.9%	11.3%	11.0%	10.5%	–2.4
AMI	17.3	16.9	16.1	15.0	14.3	13.7	–3.6
Heart failure	19.5	19.2	18.4	17.6	17.0	16.4	–3.1
Pneumonia	13.1	12.6	12.1	11.5	11.5	10.6	–2.5
COPD	16.8	16.5	15.9	15.1	14.7	14.2	–2.6

Note: AMI (acute myocardial infarction), COPD (chronic obstructive pulmonary disease). Rates are adjusted for changes in the mix of patients.

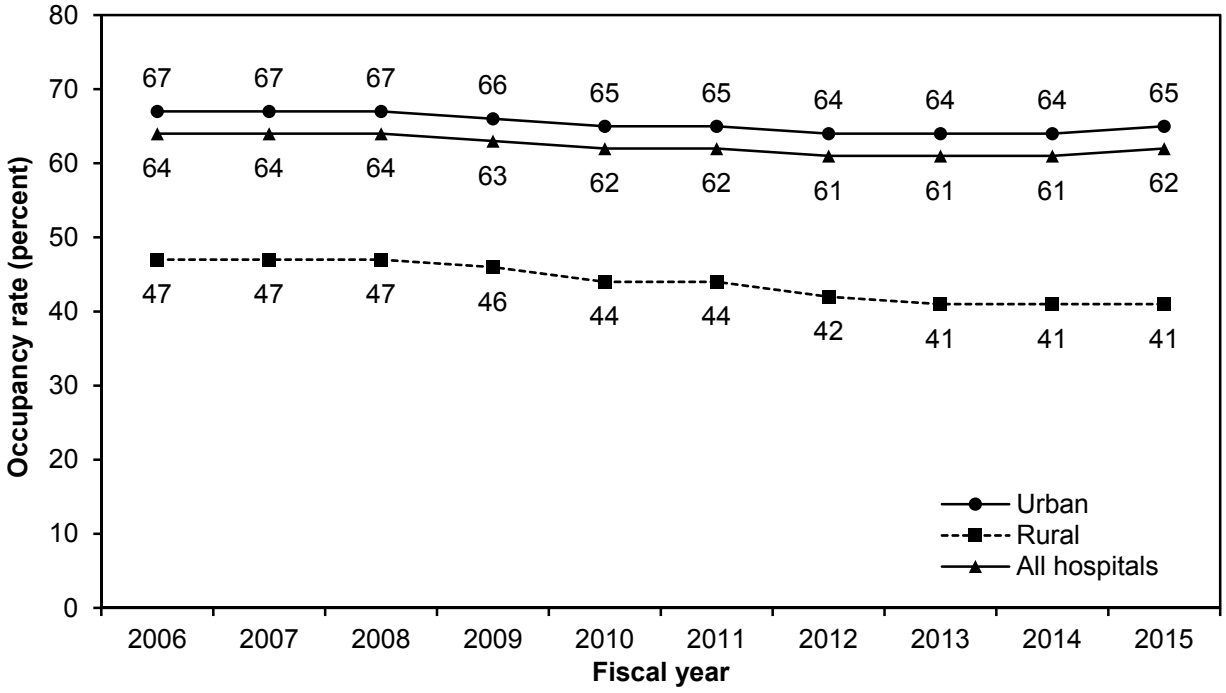
Source: MedPAC analysis of 2010 through 2015 Medicare claims data and 3M™ potentially preventable readmissions software.

- The Congress enacted the Hospital Readmission Reduction Program (HRRP) in 2010, with penalties for hospitals that have above-average readmission rates for select conditions starting in 2013.

- Rates of potentially preventable readmissions declined across all conditions between 2010 and 2015, not just those covered by the readmission reduction program. Across all conditions, potentially preventable readmission rates declined 2.4 percentage points, from 12.9 percent of discharges in 2010 to 10.5 percent in 2015.

- The three conditions covered under the HRRP beginning in 2013 have experienced declines in potentially preventable readmission rates. Readmissions for AMI declined 3.6 percentage points from 2010 to 2015. Over the same period, readmissions for heart failure declined 3.1 percentage points, and readmissions for pneumonia cases declined 2.5 percentage points. COPD was not included in the HRRP until 2015, but from 2010 to 2015, COPD readmissions declined 2.6 percentage points.

Chart 6-15. Hospital occupancy rates, 2006–2015



Note: "Hospital occupancy rates" were defined as total bed days (including swing bed days) and observation bed days used, minus nursery bed days used, over total bed days available. A consistent cohort of approximately 3,300 prospective payment system and critical access hospitals was used in this analysis.

Source: MedPAC analysis of Medicare's Hospital Cost Reports.

- In the aggregate, hospital occupancy rates have been relatively stable over the past decade. From 2006 to 2014, occupancy rates declined slowly, by 3 percentage points, but in 2015, occupancy rates increased slightly to 62 percent across all hospitals.

- Occupancy rates are generally higher for urban than rural hospitals. In 2015, the aggregate occupancy rate for urban hospitals was 65 percent, and the aggregate occupancy rate for rural hospitals was 41 percent.

- The decline in occupancy rates from 2006 to 2015 has been greater for rural hospitals than for urban hospitals. During this period, rural occupancy rates declined almost 6 percentage points, whereas urban occupancy rates declined almost 2 percentage points.

Chart 6-16. Medicare inpatient payments, by source and PPS hospital group, 2015

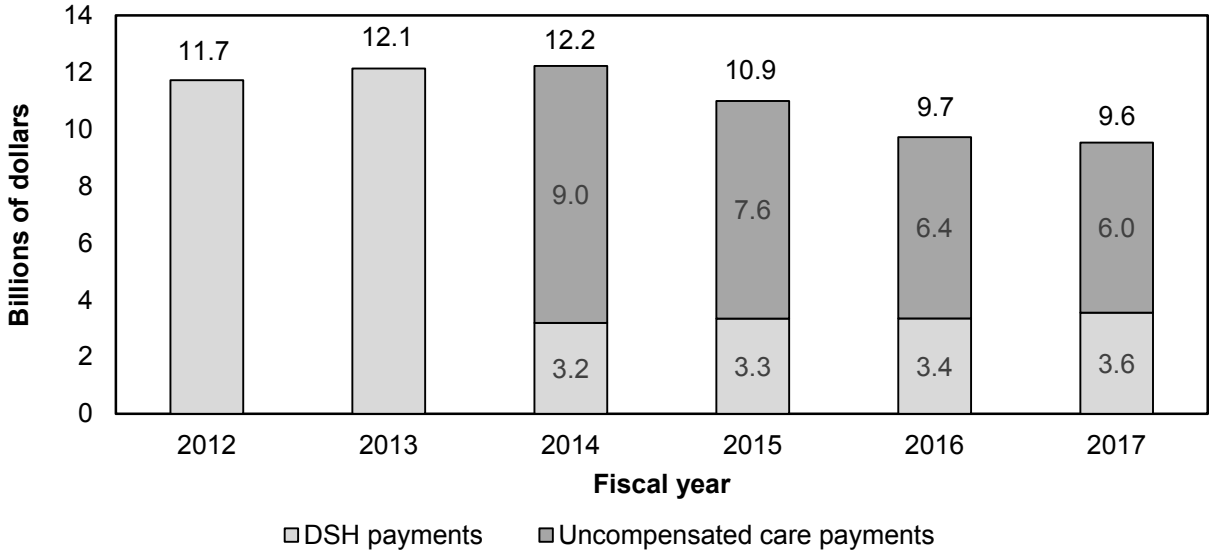
	Share of total payments						
Hospital group	Base	IME	DSH	UC	Outlier	Additional rural hospital*	Total payments (millions)
All PPS hospitals	80.0%	5.4%	2.9%	6.6%	3.6%	1.5%	$113,514
Urban IPPS	80.0	5.8	3.0	6.9	3.8	0.6	104,391
Rural IPPS	80.8	0.9	1.1	3.9	1.0	11.3	9,123
Large urban	78.2	7.1	3.2	7.5	4.3	0.0	59,830
Other urban	82.3	4.0	2.9	6.0	3.2	1.4	44,210
Rural referral	88.8	0.9	2.2	6.8	1.6	0.0	2,058
SCH (federal rate)	81.6	4.6	1.5	8.0	1.8	2.9	1,071
SCH (HSP rate)	74.2	0.1	0.0	0.0	0.3	25.4	3,938
Medicare dependent	80.0	0.0	1.5	4.8	1.1	13.1	830
Other rural, <50 beds	79.5	0.1	1.5	7.2	3.0	8.7	326
Other rural, ≥50 beds	85.5	1.2	1.9	8.0	1.4	2.4	885
Voluntary	80.8	5.7	2.7	6.0	3.6	1.4	80,271
Proprietary	83.9	2.2	3.1	7.4	2.7	1.1	18,350
Government	71.4	7.7	3.4	9.4	4.8	2.7	14,893
Major teaching	66.4	15.8	3.5	8.6	5.6	0.0	28,761
Other teaching	82.6	3.6	2.9	6.6	3.2	1.0	41,802
Nonteaching	86.8	0.0	2.4	5.4	2.7	2.9	42,583

Note: PPS (prospective payment system), IPPS (inpatient prospective payment system), IME (indirect medical education), DSH (disproportionate share), UC (uncompensated care), SCH (sole community hospital), HSP (hospital-specific payment). Chart includes hospitals covered by the IPPS and excludes critical access hospitals. "Medicare-dependent" category includes facilities paid at either the HSP or the federal rate. Component percentages may not sum to 100 due to rounding. Simulated payments reflect 2015 payment rules applied to actual number of cases in 2015. Direct graduate medical education payments are excluded.
*"Additional rural hospital" payments are the total payments made to hospitals beyond the federal base rate, including SCH add-on payments, Medicare-dependent hospital add-on payments, and low-volume add-on payments. For SCHs paid the HSP, this category also includes the payments they received indirectly—attributable to the costs associated with residency programs, low-income patients, and outlier cases.

Source: MedPAC analysis of claims and impact file data from CMS.

- Medicare inpatient payments in 2015 to hospitals covered by the acute IPPS exceeded $113 billion. About $104 billion (92 percent) went to urban hospitals, and approximately $9 billion (8 percent) went to rural hospitals. This figure does not reflect $2.7 billion in payments to critical access hospitals (CAHs) for inpatient care. Cost-based reimbursement for CAHs results in payments significantly above what CAHs would have been paid under the IPPS.
- Base payments accounted for 80 percent of all inpatient payment in 2015. Special payments—including IME, DSH, UC, and outlier payments, as well as additional payments to rural hospitals through the SCH and Medicare-dependent hospital programs—accounted for 20 percent of all inpatient payments.
- In 2015, uncompensated care payments for each eligible hospital were based on each hospital's number of Medicaid and Medicare supplemental security income patient days.
- Outlier payments accounted for 3.6 percent of total inpatient payments in 2015, or about $4.1 billion.

Chart 6-17. Medicare inpatient disproportionate share payments and uncompensated care payments, 2012–2017



Note: DSH (disproportionate share). Chart includes hospitals covered by the inpatient prospective payment system. Chart excludes hospitals not eligible for DSH payments: critical access hospitals, hospitals in Maryland, and sole community hospitals paid hospital-specific rates. Data represent DSH and uncompensated care payment levels finalized by CMS. Components may not sum to totals due to rounding.

Source: CMS hospital inpatient prospective payment systems (IPPS) for acute care hospitals and long-term care hospital prospective payment system final rules from fiscal years 2012 to 2017.

- In 2012 and 2013, hospitals received approximately $12 billion in aggregate Medicare DSH payments annually. The traditional DSH payment formula was based on hospitals' share of Medicaid patients and Medicare patients with Social Security Disability Insurance.

- Beginning in 2014, DSH payments were calculated as 25 percent of the operating DSH payment the hospital would have received under the traditional DSH formula (noted above). Aggregate DSH payments have been approximately $3 billion to $4 billion per year since the policy change. For fiscal year (FY) 2018, CMS has proposed $4.0 billion in DSH payments. The increase in DSH payments between 2017 and 2018 is due to CMS-estimated growth in inpatient discharges for FY 2018, and the annual update to IPPS payment rates (data not shown).

- Beginning in 2014, DSH-eligible hospitals are also eligible to receive uncompensated care payments. These payments are calculated as a fixed pool of dollars equal to 75 percent of the DSH payment received under the traditional DSH formula, minus an amount that increases in proportion to the decline in the share of the uninsured population. These payments are distributed based on the share of uncompensated care each hospital provides. The amount of uncompensated care payments declined more than $3 billion between 2014 and 2017 because of declines in the uninsured population.

- From FY 2013 to 2014, inpatient DSH payments declined approximately $9 billion, but hospitals were eligible to receive $9 billion in uncompensated care payments that were paid separately from the inpatient payment system.

- On net, the sum of DSH and uncompensated care payments declined $2.1 billion between 2012 and 2017 because the decline in the uninsured population more than offset the growth in the DSH percentage (due to Medicaid expansion) and the growth in Medicare discharges.

Chart 6-18. Discharge destination of Medicare fee-for-service beneficiaries served in acute care hospitals, 2006–2015

Destination	2006	2014	2015	Percentage Point change 2006–2015
Home self-care	52.3%	46.0%	45.5%	–6.8
Skilled nursing or swing bed	18.8	21.0	21.2	2.4
Home with organized home health care	13.8	16.8	16.9	3.1
Inpatient rehabilitation facility	3.4	3.8	3.9	0.5
Died in hospital	3.8	3.3	3.3	–0.5
Hospice	1.6	2.9	3.0	1.4
Transferred to other acute care hospital	2.5	2.2	2.1	–0.4
Other setting (e.g., ICF, nursing facility)	2.0	1.6	1.6	–0.4
Long-term care hospital	0.9	1.2	1.2	0.3
Left against medical advice	0.6	0.8	0.8	0.2
Inpatient psychiatric facility	0.4	0.5	0.4	0.0

Note: ICF (intermediate care facility). Numbers may not sum due to rounding. These data include hospitals reimbursed by the Medicare inpatient prospective payment system and critical access hospitals.

Source: Medicare inpatient claims data.

- In 2015, about 46 percent of all Medicare fee-for-service patients were discharged from an acute care hospital to home under self-care, without any organized post-acute care. The share of beneficiaries discharged home under self-care has decreased since 2006 with greater use of post-acute care providers, particularly home health care, skilled nursing care, and hospice.

- In 2015, about 43 percent of all Medicare fee-for-service patients discharged from an acute care hospital were discharged to post-acute care services (skilled nursing facility (SNF), home health care agency, inpatient rehabilitation facility, or long-term care hospital). The share of beneficiaries discharged to post-acute care services increased about 6 percentage points between 2006 and 2015.

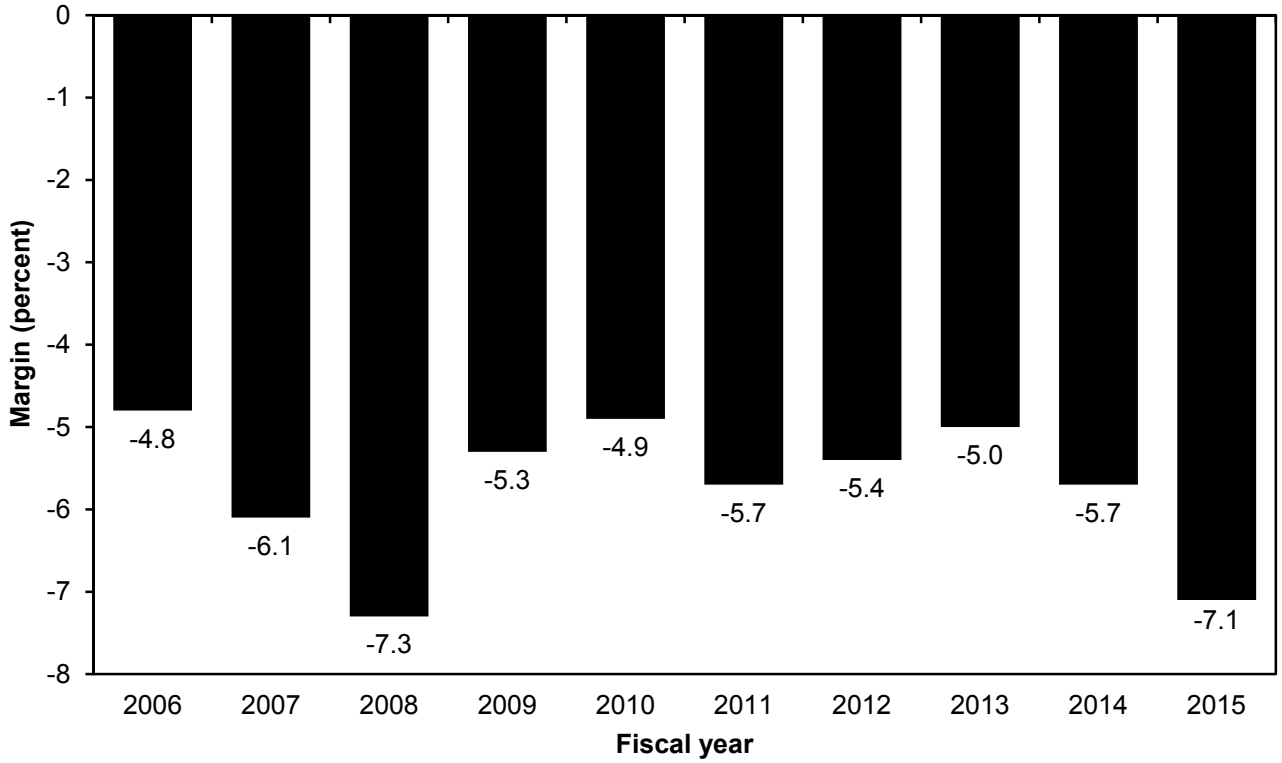
- About one in five beneficiaries is discharged to skilled nursing care, either in a SNF or hospital swing bed. The share of beneficiaries discharged to SNF-level care increased 2.4 percentage points between 2006 and 2015.

- An increasing share of beneficiaries are being discharged home with organized home health care, increasing from 13.8 percent of discharges in 2006 to 16.9 percent in 2015.

- Discharges to hospice care have shown substantial growth, rising from 1.6 percent of discharges in 2006 to 3.0 percent of discharges in 2015. A little more than half of these hospice discharges are to medical facility–level care rather than home care.

- The share of patients dying in the hospital or being transferred to another acute care hospital declined between 2006 and 2015.

Chart 6-19. Overall Medicare margin, 2006–2015



Note: A margin is calculated as revenue minus costs, divided by revenue. Data are based on Medicare-allowable costs and exclude critical access hospitals. Overall Medicare margins cover the costs and payments of acute inpatient, outpatient, inpatient psychiatric and rehabilitation unit, skilled nursing facility, and home health services, as well as graduate medical education, bad debts, Medicare payments for health information technology, and uncompensated care payments. Maryland hospitals are excluded from this analysis.

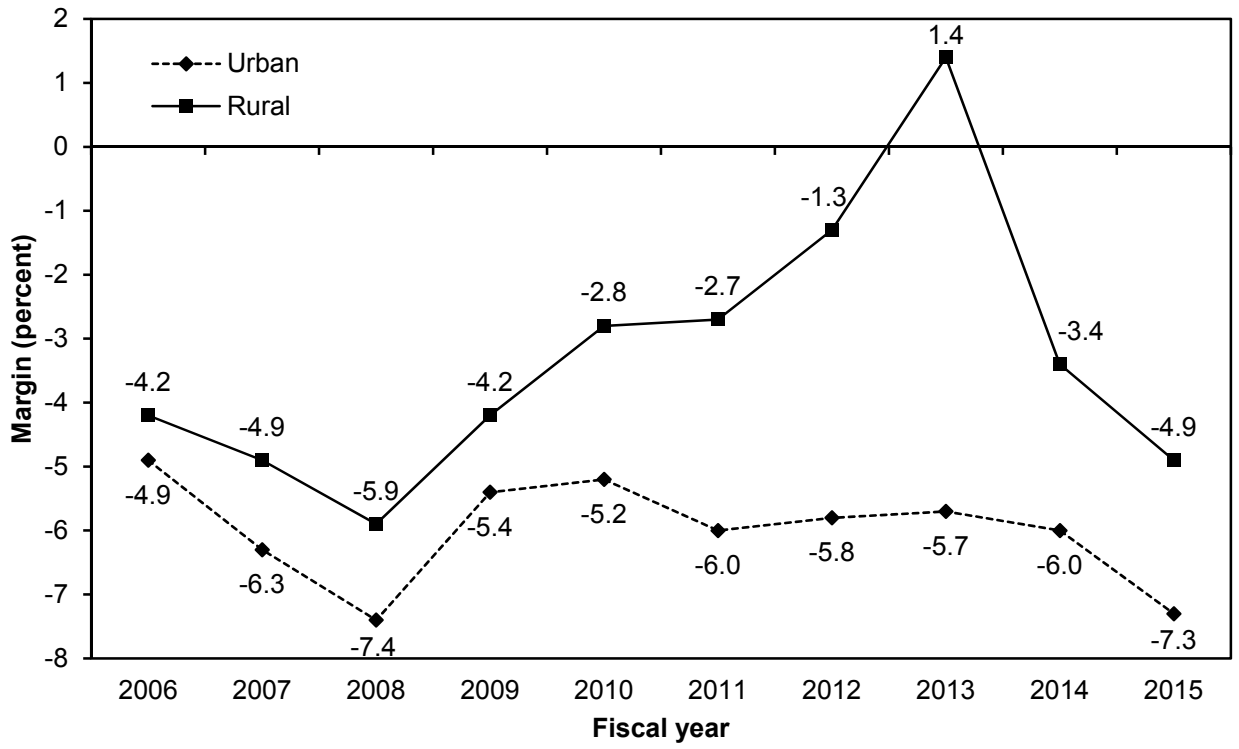
Source: MedPAC analysis of Medicare cost report data from CMS.

- The overall Medicare margin incorporates payments and costs for acute inpatient, outpatient, skilled nursing, home health care, and inpatient psychiatric and rehabilitative services, as well as direct graduate medical education, bad debts, Medicare payments for health information technology, and—starting in 2014—uncompensated care payments. The overall margin follows a trend similar to that of the Medicare inpatient margin.

- The overall Medicare margin in 2006 was –4.8 percent. In fiscal year 2015, it was –7.1 percent.

- In 2015, 25 percent of hospitals had overall Medicare margins of 3.9 percent or higher, and another 25 percent had margins of –17.3 percent or lower (not shown in chart). About 34 percent of hospitals had positive overall Medicare margins in 2015.

Chart 6-20. Overall Medicare margin, by urban and rural location, 2006–2015



Note: A margin is calculated as revenue minus costs, divided by revenue. Data are based on Medicare-allowable costs and exclude critical access hospitals. Overall Medicare margins cover the costs and payments of acute inpatient, outpatient, inpatient psychiatric and rehabilitation unit, skilled nursing facility, and home health services, as well as graduate medical education, bad debts, Medicare payments for health information technology, and uncompensated care payments. Maryland hospitals are excluded from this analysis.

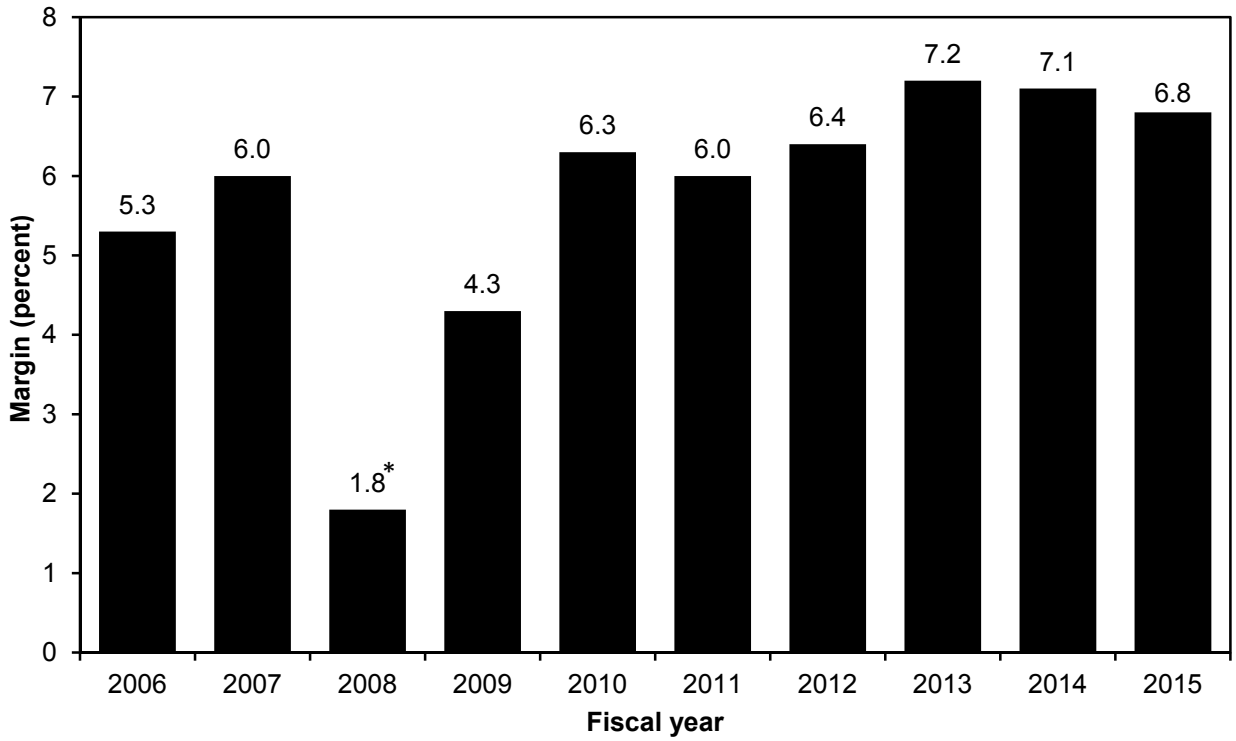
Source: MedPAC analysis of Medicare cost report data from CMS.

- Overall Medicare margins historically were higher for urban hospitals than for rural hospitals; however, over the last decade, overall Medicare margins for rural hospitals have exceeded those for urban hospitals. In 2015, the difference between urban and rural hospital margins was about 2.4 percentage points.

- The difference in overall Medicare margins between urban and rural hospitals narrowed throughout the middle of the past decade. In 2002, the overall margin for urban hospitals was 2.7 percent, compared with –2.5 percent for rural hospitals (not shown in chart). Policy changes made in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 helped to improve the relative financial position of rural hospitals. Further legislation to assist rural hospitals was implemented after 2008. Most recently, in 2015, the overall Medicare margin for urban hospitals was –7.3 percent, compared with –4.9 percent for rural hospitals.

- The overall Medicare margin includes inpatient and outpatient services, but not laboratory services. The rural margin rose to 1.4 percent by 2013 in part because of low-volume add-on payments and health information technology payments. However, in 2014 the rural margin fell to –3.4 percent because some unprofitable services that had been paid as laboratory services shifted into the outpatient payment system. These outpatient tests were a disproportionately large share of rural hospital payments, causing rural margins to fall faster than urban margins. Because of special rural add-on payments, rural margins continue to be higher than urban hospitals' margins.

Chart 6-21. Hospital total all-payer margin, 2006–2015



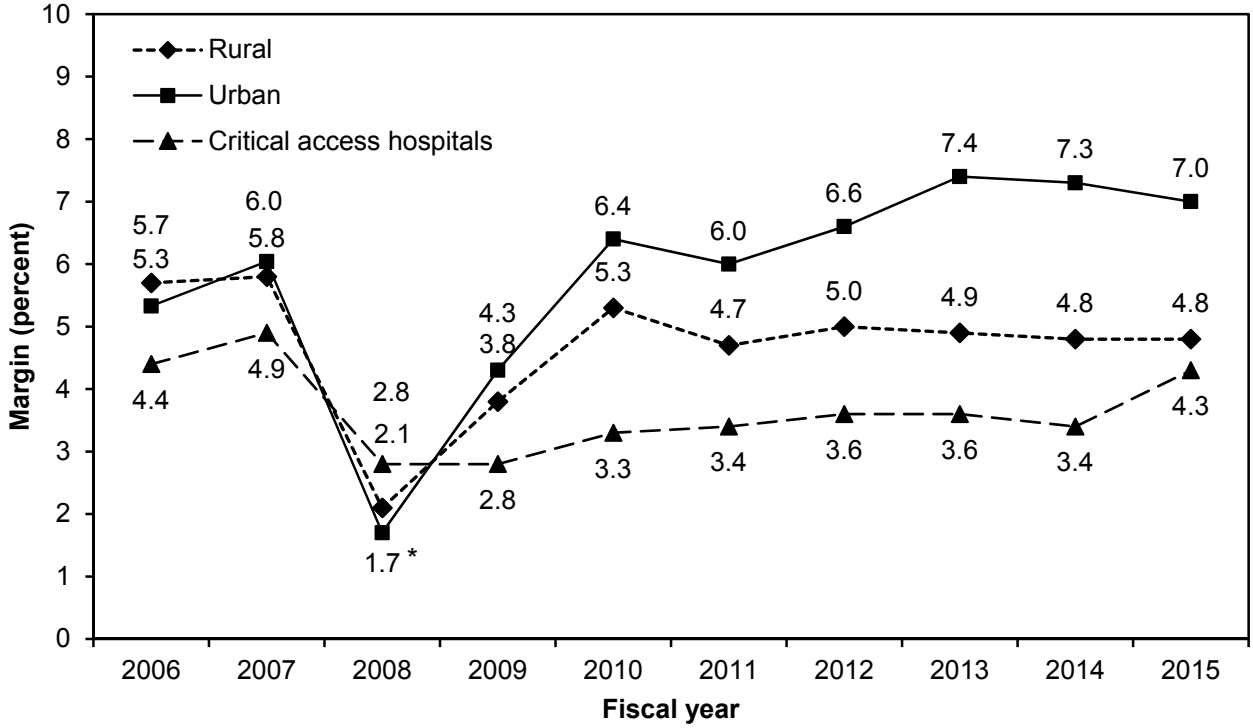
Note: A margin is calculated as revenue minus costs, divided by revenue. Total margin includes all patient care services funded by all payers, plus nonpatient revenue. Analysis excludes critical access hospitals and Maryland hospitals.
*The significant drop in total margin includes investment losses stemming from the decline of the U.S. stock market in 2008.

Source: MedPAC analysis of Medicare cost report data from CMS.

- The total hospital margin for all payers—Medicare, Medicaid, other government, and private payers—reflects the relationship of all hospital revenues to all hospital costs, including inpatient, outpatient, post-acute, and nonpatient services. The total margin also includes nonpatient revenue such as investment income. Other types of margins we track—Medicare inpatient margin and overall Medicare margin—are operating margins that do not include investment income.

- The 2008 decline of the U.S. stock market resulted in significant investment losses for hospitals, which resulted in a corresponding decline in total margin. From 2013 to 2015, all-payer margins were close to 7 percent, a level higher than the prior two decades.

Chart 6-22. Hospital total all-payer margin, by urban and rural location and critical access hospitals, 2006–2015



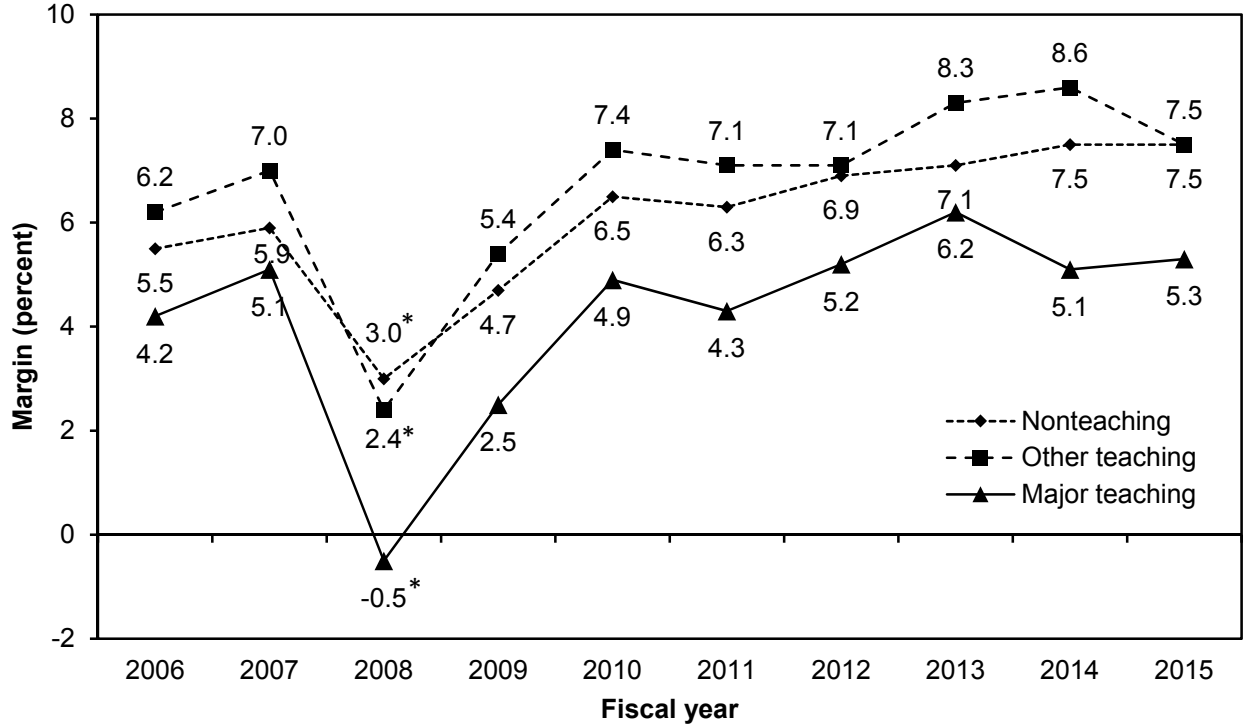
Note: A margin is calculated as revenue minus costs, divided by revenue. Total margin includes all patient care services funded by all payers, plus nonpatient revenue such as investment revenues. Analysis excludes Maryland hospitals.
*Significant drop in total margin includes investment losses resulting from the U.S. stock market decline of 2008.

Source: MedPAC analysis of Medicare cost report data from CMS.

- Since 2009, urban hospitals have had higher total (all-payer) margins than rural hospitals. In 2015, total margins were 7.0 percent for urban hospitals and 4.8 percent for rural hospitals. From 2009 to 2013, the growth in urban and rural total all-payer margins reflects low cost growth and increasing private-payer reimbursement rates.

- In general, all-payer margins for critical access hospitals have historically been lower than for other urban or rural hospitals.

Chart 6-23. Hospital total all-payer margin, by teaching status, 2006–2015



Note: "Major teaching" hospitals are defined by a ratio of interns and residents to beds of 0.25 or greater, while "other teaching" hospitals have a ratio of greater than 0 and less than 0.25. A margin is calculated as revenue minus costs, divided by revenue. Total margin includes all patient care services funded by all payers, plus nonpatient revenue. Analysis excludes critical access hospitals and Maryland hospitals.
*Significant drop in total margin includes investment losses resulting from the U.S. stock market decline of 2008.

Source: MedPAC analysis of Medicare cost report data from CMS.

- The total all-payer margins for major teaching hospitals have consistently been lower than those for other teaching and nonteaching hospitals. In 2015, the total margin for major teaching hospitals stood at 5.3 percent, compared with other teaching hospitals and nonteaching hospitals at 7.5 percent.

- Following several years of increasing margins, in 2008, total (all-payer) margins declined significantly because of losses in investment revenues. As a result, total margins for major teaching hospitals were negative in 2008. Since 2008, total margins for major teaching hospitals have recovered and remain above their historic average.

Chart 6-24. Medicare margins by teaching and disproportionate share status, 2015

Hospital group	Share of hospitals	Overall Medicare margin
All hospitals	100%	–7.1%
Major teaching	11	–5.2
Other teaching	22	–5.8
Nonteaching	66	–9.6
Both IME and DSH	30	–5.1
IME only	3	–13.3
DSH only	54	–8.6
Neither IME nor DSH	13	–15.0

Note: IME (indirect medical education), DSH (disproportionate share). Components may not sum to 100 percent due to rounding. Maryland hospitals are excluded from this analysis.

Source: MedPAC analysis of 2015 Medicare cost report data from CMS.

- By contrast with all-payer total margins, major teaching hospitals had the highest overall Medicare margins in 2015. Their better financial performance was largely due to the additional payments they received from the IME and DSH adjustments to their inpatient payments.
- Hospitals that received neither IME nor DSH payments had the lowest Medicare margins. In 2015, the overall Medicare margin of these hospitals was –15.0 percent, well below the margins of major teaching hospitals (–5.2 percent) and the all-hospital average (–7.1 percent).
- Major teaching hospitals have higher Medicare margins than other hospitals, but they have lower total (all-payer) margins than other hospitals (see Chart 6-23).

Chart 6-25. Financial pressure leads to lower costs

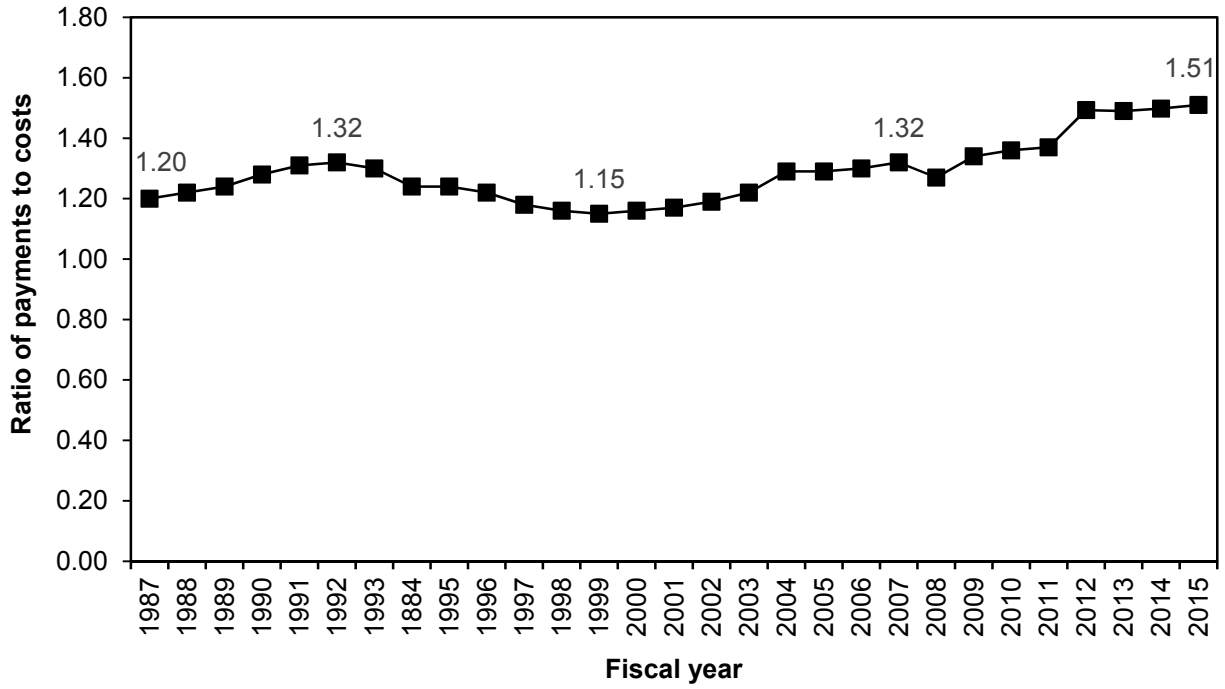
	Level of financial pressure, 2012–2014		
	High pressure (non-Medicare margin ≤ 1%)	Medium pressure	Low pressure (non-Medicare margin > 5%)
Number of hospitals	697	392	1,704
Financial characteristics, 2015 (medians)			
Non-Medicare margin (private, Medicaid, uninsured)	–3.2%	3.8%	13.6%
Standardized cost per discharge (as a share of the national median)			
For-profit and nonprofit hospitals	91	99	102
Nonprofit hospitals	93	99	103
For-profit hospitals	90	95	100
Annual growth in cost per discharge, 2012–2015	3%	3%	2%
Overall 2015 Medicare margin (medians)	4.1%	–3.3%	–9.1%
Patient characteristics (medians)			
Total hospital discharges in 2015	3,432	5,645	7,807
Medicare share of inpatient days	41%	38%	38%
Medicaid share of inpatient days	9%	9%	7%
Medicare case-mix index	1.36	1.50	1.59

Note: Standardized costs are adjusted for hospital case mix, wage index, outliers, transfer cases, interest expense, and the effect of teaching and low-income Medicare patients on hospital costs. The sample includes all hospitals that had complete cost reports on file with CMS by October 2016. "High-pressure hospitals" are defined as those with a median non-Medicare profit margin of 1 percent or less from 2012 to 2014 and with a net worth that grew by less than 1 percent per year over that period if the hospital's Medicare profits had been zero. "Low-pressure hospitals" are defined as those with a median non-Medicare profit margin greater than 5 percent from 2012 to 2014 and a net worth that grew by more than 1 percent per year over that period if the hospital's Medicare profits had been zero. "Medium-pressure hospitals" are those that fit into neither the high- nor the low-pressure categories.

Source: MedPAC analysis of Medicare cost report and claims files from CMS.

- Higher financial pressure tends to lead to lower standardized costs per discharge. Hospitals with lower volume, lower case mix, and higher Medicaid charges are more likely to be under financial pressure.
- In 2015, low-pressure hospitals had a lower percentage point increase in costs (2 percent) than other hospitals, but still ended with higher costs per discharge (102 percent of the average).

Chart 6-26. Change in the private-payer ratio of payments to costs for hospital services, 1987–2015



Note: Data are for community hospitals (including critical access hospitals and Maryland hospitals) and cover all hospital services. The private-payer ratio of payments to costs includes self-pay patients. Data for 2006 to 2010 exclude Medicare and Medicaid managed care patients from the private-payer ratio of payments to costs. In 2012, hospitals began excluding data related to bad debt and charity care from their reported charges and payments.

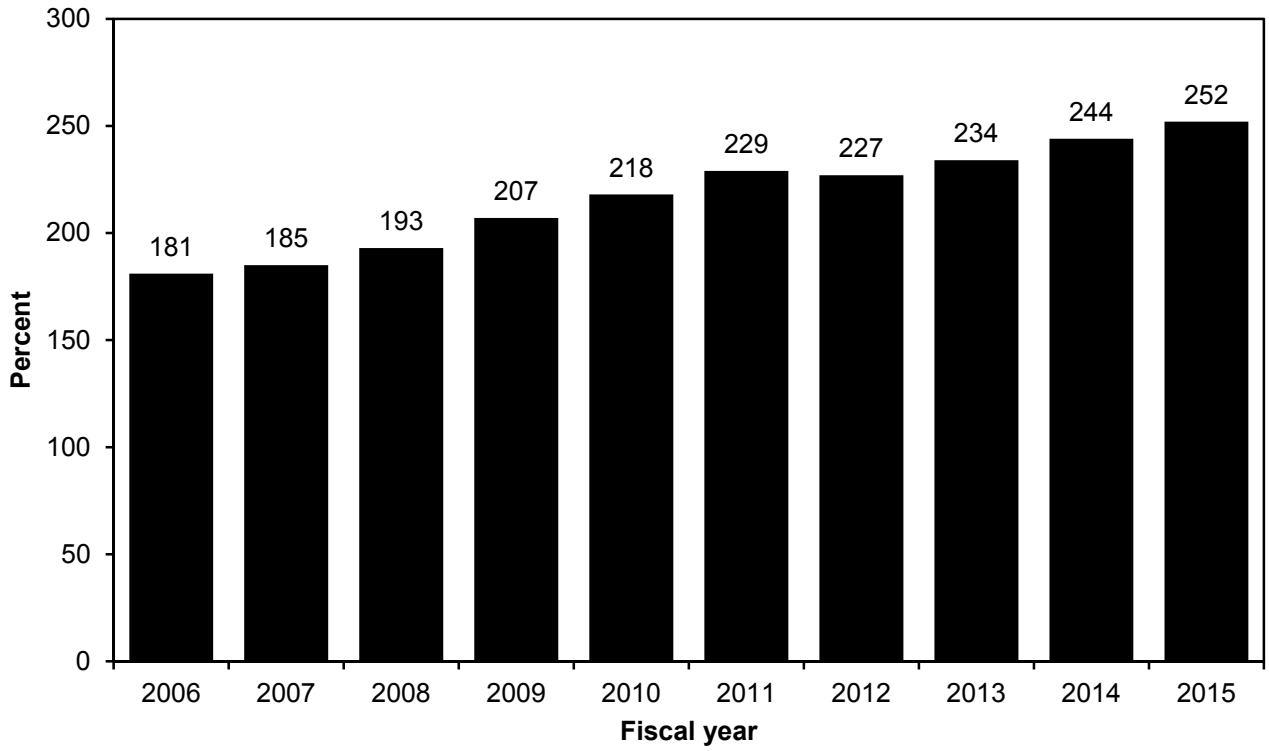
Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals.

- The private-payer ratio of payments to costs reflects hospitals' weighted average profit margin on all service lines of business, such as inpatient, outpatient, and hospital-owned physician practices. In 2015, the private-payer ratio of payments to costs was 1.51. This ratio includes payments and costs attributed to uninsured patients who pay for their own services (self-pay).

- The private-payer payment-to-cost ratio for hospital services has fluctuated over time in part because of shifts in the relative bargaining power of hospitals and insurers. In 1992, hospitals' private-payer payment-to-cost ratio was 1.32. However, with the expansion of health management organizations and movements to narrow networks, the private-payer payment-to-cost ratio declined to 1.15 by 1999. It subsequently rose to the 2015 level of 1.51.

- From 2012 to 2015, the private-payer ratio of payments to costs was relatively flat at around 1.50. During this period, total hospital profits increased from 6.4 percent in 2012 to 30-year highs near 7 percent in 2013, 2014, and 2015 (see Chart 6-21), in part because of a decline in uncompensated care as more patients gained insurance.

Chart 6-27. Markup of hospital charges above costs for Medicare services, 2006–2015



Note: Analysis includes all community hospitals (including critical access hospitals and hospitals in Maryland). Markups are calculated as the amount of charges over the amount of costs, minus the amount that charges equal costs (charges/costs – 1).

Source: American Hospital Association Annual Survey of Hospitals.

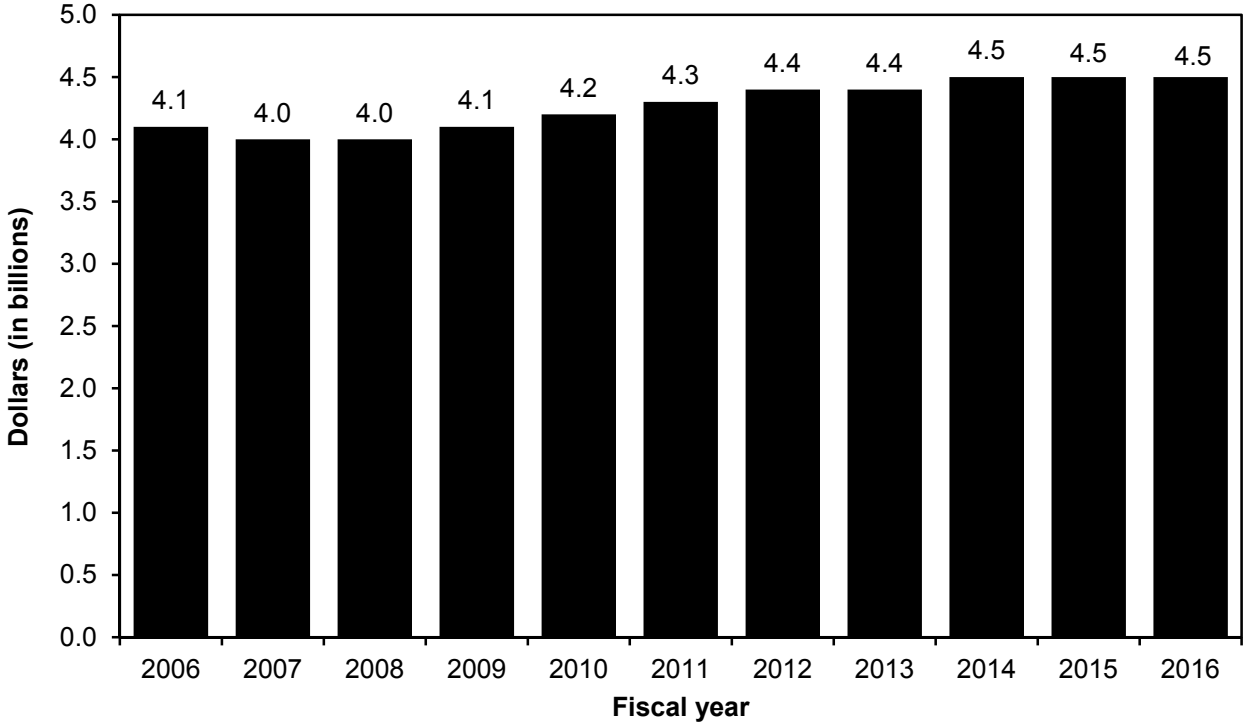
- The average markup of hospitals' charges above costs rose from 181 percent in 2006 to 252 percent in 2015. Hospital charges ($686 billion) were over three times costs ($195 billion) in 2015 (data not shown).

- Rapid growth in charges may have little impact on hospital financial performance because few patients pay full charges. However, charge growth may significantly affect uninsured patients, who may pay full charges. More rapid growth in charges (relative to growth in costs) may reflect hospitals' attempts to maximize revenue from private payers (who often structure their payments as a discount off charges).

- The markup of charges over costs in 2015 is generally higher for urban hospitals (262 percent) than for rural hospitals (176 percent) (not shown in chart).

- Among urban hospitals in 2015, the markup of charges over costs was higher for for-profit hospitals (489 percent) than for nonprofit hospitals (254 percent). Rural for-profit hospitals have a higher markup of charges over costs (388 percent) than nonprofit hospitals (196 percent) (not shown in chart).

Chart 6-28. Medicare payments to inpatient psychiatric facilities, 2006–2016



Note: Spending for inpatient psychiatric care furnished in scatter beds in acute care hospitals (and paid for under the acute care inpatient prospective payment system) is not included in this chart.

Source: CMS Office of the Actuary.

- The inpatient psychiatric facility prospective payment system started January 1, 2005. It was phased in over a three-year period.
- Medicare program spending for beneficiaries' care in inpatient psychiatric facilities grew an average of 2 percent per year between 2006 and 2016.

Chart 6-29. Inpatient psychiatric facilities, 2006–2015

Type of IPF	2006	2008	2010	2012	2014	2015	Average annual change 2006–2014	Average annual change 2014–2015
All	1,647	1,634	1,596	1,568	1,589	1,557	–0.4%	–2.0%
Urban	1,307	1,289	1,259	1,237	1,248	1,226	–0.6	–1.8
Rural	340	345	337	331	340	329	0.0	–3.2
Freestanding	396	419	447	450	474	477	2.3	0.6
Hospital-based units	1,251	1,215	1,149	1,118	1,115	1,080	–1.4	–3.1
Nonprofit	902	866	807	762	739	718	–2.5	–2.8
For profit	348	357	386	436	492	498	4.4	1.2
Government	397	411	403	370	358	341	–1.3	–4.7

Note: IPF (inpatient psychiatric facility). Data are from facilities that submitted valid Medicare cost reports in the given fiscal year. Numbers may not sum to totals due to missing data.

Source: MedPAC analysis of Medicare cost report files from CMS.

- Between 2006 and 2014, the number of IPFs that filed Medicare cost reports fell, on average, 0.4 percent per year. Between 2014 and 2015, the number of IRFs fell 2.0 percent.
- A growing share of Medicare IPF users receives care in for-profit facilities. Between 2006 and 2014, the number of for-profit IPFs grew, on average, more than 4 percent per year. Over the same period, the number of nonprofit IPFs fell 2.5 percent per year, on average. The number of nonprofit IPFs continued to decline in 2015.

Chart 6-30. One diagnosis accounted for almost three-quarters of Medicare IPF cases in 2015

MS–DRG	Diagnoses	Percentage
885	Psychosis	73.1%
884	Organic disturbances and mental retardation	6.9
057	Degenerative nervous system disorders without MCC	5.8
897	Alcohol/drug abuse or dependency, no rehabilitation, without MCC	5.0
881	Depressive neurosis	3.2
882	Neurosis except depressive	1.2
895	Alcohol/drug abuse or dependency with rehabilitation, without MCC	1.2
880	Acute adjustment reaction and psychosocial dysfunction	0.7
056	Degenerative nervous system disorders with MCC	0.5
883	Disorders of personality and impulse control	0.5
886	Behavioral and developmental disorders	0.4
894	Alcohol/drug use—left AMA	0.3
896	Alcohol/drug abuse or dependency without rehabilitation, with MCC	0.2
876	OR procedure with principal diagnosis of mental illness	0.1
081	Nontraumatic stupor and coma without MCC	0.1
887	Other mental disorders	0.1
080	Nontraumatic stupor and coma with MCC	0.0
	Nonpsychiatric MS–DRGs	0.8
	Total	100.0

Note: IPF (inpatient psychiatric facility), MS–DRG (Medicare severity–diagnosis related group), MCC (major comorbidity or complication), AMA (against medical advice), OR (operating room). Totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- Medicare patients in IPFs are generally assigned 1 of 17 psychiatric MS–DRGs.
- The most frequently occurring IPF diagnosis—accounting for about 73 percent of IPF discharges in 2015—was psychosis. This broad category includes patients with principal diagnoses of schizophrenia, bipolar disorder, and major depression.
- In 2015, the next most common discharge diagnosis, accounting for almost 7 percent of IPF cases, was organic disturbances and mental retardation.

Chart 6-31. Characteristics of Medicare IPF users, 2015

Characteristic	Share of all IPF users	Share of users with more than one IPF stay
Current eligibility status*		
Aged	41.4%	28.9%
Disabled	58.5	71.0
ESRD only	0.1	0.1
Age (years)		
<45	23.2	30.8
45–64	34.8	39.6
65–79	26.2	20.9
80+	15.8	8.6
All	100.0	27.7

Note: IPF (inpatient psychiatric facility), ESRD (end-stage renal disease). Numbers may not sum to totals due to rounding.
*Some aged beneficiaries are also disabled.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- Almost 59 percent of Medicare beneficiaries who had at least one IPF stay in 2015 qualified for Medicare because of a disability. These beneficiaries tend to be younger and poorer than the typical fee-for-service beneficiary.

- Approximately 28 percent of Medicare beneficiaries who used an IPF in 2015 had more than one IPF stay during the year. These beneficiaries were far more likely than all IPF users to be disabled.

SECTION 7

Ambulatory care

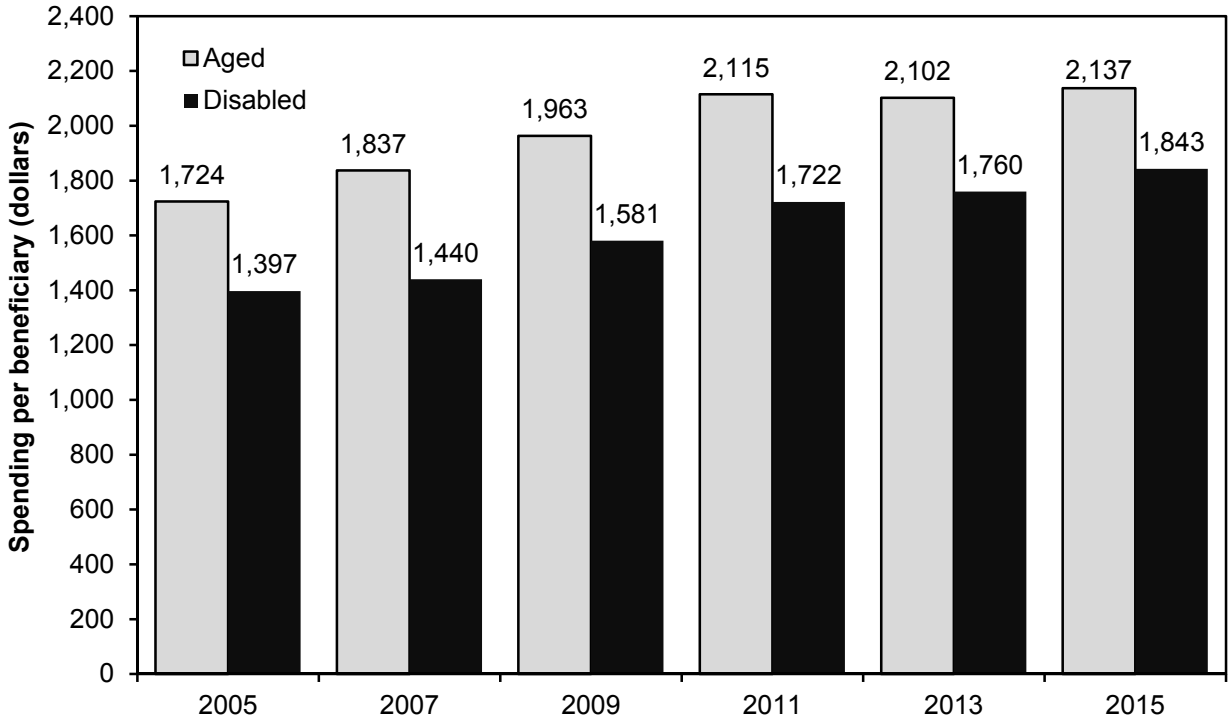
Physicians and other health professionals

Hospital outpatient services

Ambulatory surgical centers

Imaging services

Chart 7-1. Medicare spending per fee-for-service beneficiary on services in the fee schedule for physicians and other health professionals, 2005–2015



Note: Dollar amounts are Medicare spending only and do not include beneficiary cost sharing. The category "disabled" excludes beneficiaries who qualify for Medicare because they have end-stage renal disease. All beneficiaries ages 65 and over are included in the "aged" category.

Source: The annual report of the Boards of Trustees of the Medicare trust funds 2016.

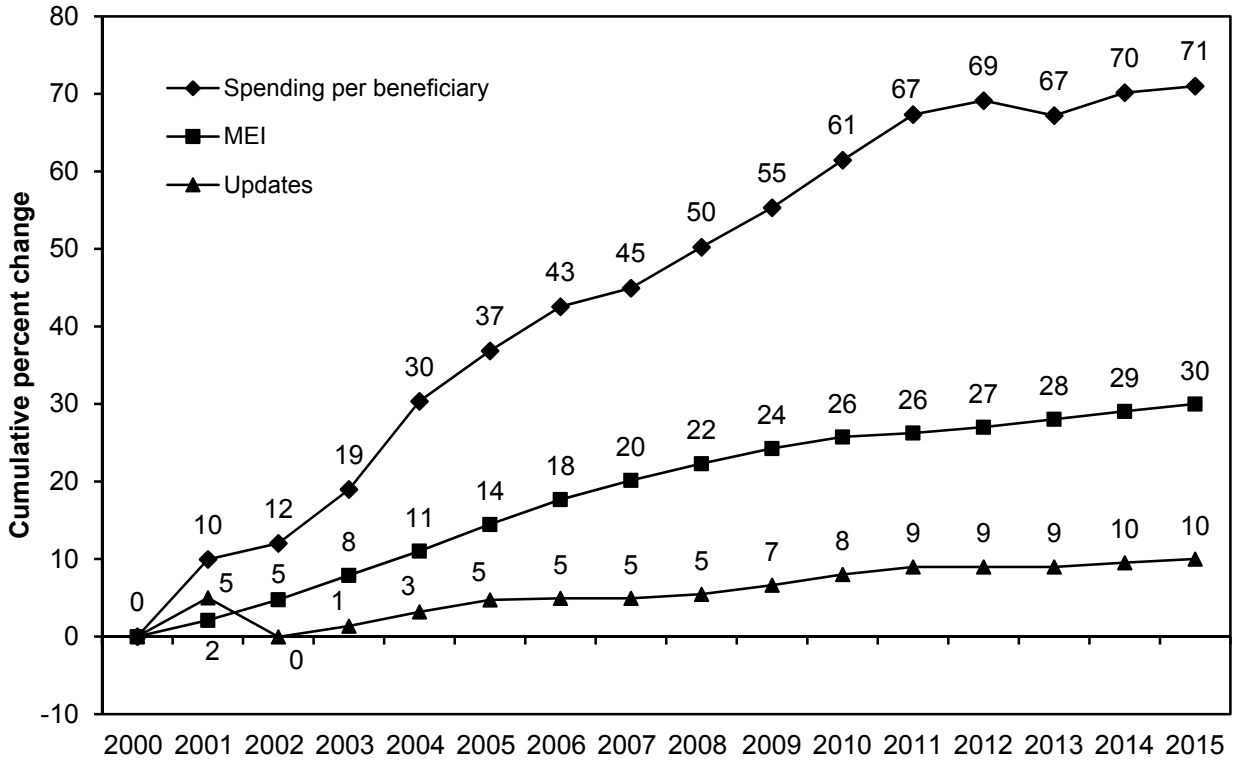
- The fee schedule for physicians and other health professionals includes a broad range of services such as office visits, surgical procedures, and diagnostic and therapeutic services furnished in all health care settings. "Other health professionals" refers to nurse practitioners, physician assistants, chiropractors, physical therapists, and other clinicians. Fee schedule spending was $70.3 billion in 2015.

- Except for a small decrease in spending between 2012 and 2013 (data not shown), spending per fee-for-service beneficiary for fee schedule services has increased annually. From 2005 to 2015, spending per beneficiary grew at a cumulative rate of 25 percent.

- Growth in spending on fee schedule services is one of several factors contributing to Part B premium increases over this period.

- Per capita spending for disabled beneficiaries (under age 65) is lower than per capita spending for aged beneficiaries (ages 65 and over). In 2015, for example, per capita spending for disabled beneficiaries was $1,843 compared with $2,137 for aged beneficiaries.

Chart 7-2. Growth in the volume of clinician services has caused fee schedule spending to increase faster than input prices and payment updates, 2000–2015

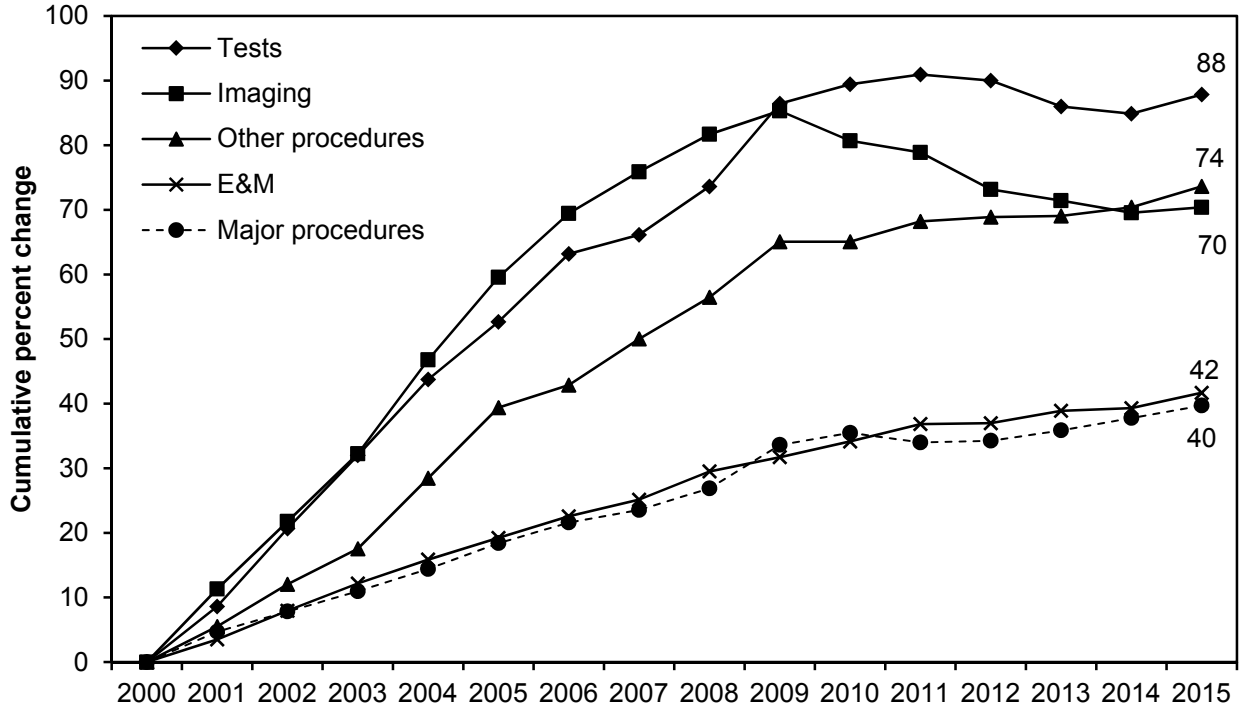


Note: MEI (Medicare Economic Index).

Source: The annual report of the Boards of Trustees of the Medicare trust funds 2016. Centers for Medicare & Medicaid Services. 2014. Estimated sustainable growth rate and conversion factor, for Medicare payments to physicians in 2015. Fact sheet. https://www.cms.gov/medicare/medicare-fee-for-service-payment/sustainablegratesconfact/downloads/sgr2015p.pdf.

- From 2000 to 2015, Medicare spending per fee-for-service beneficiary for services paid under the fee schedule for physicians and other health professionals increased by a cumulative 71 percent.
- Spending per beneficiary grew much more rapidly over the period than both the fee schedule payment rate updates and the MEI, which measures changes in input prices. Payment updates grew cumulatively by 10 percent, and the MEI increased 30 percent.
- Growth in the volume of services contributed much more to the increase in Medicare spending than payment rate updates. Both factors—volume growth and updates—combined to increase Medicare revenue for physicians and other health professionals.

Chart 7-3. Growth in the volume of clinician services per fee-for-service beneficiary, 2000–2015



Note: E&M (evaluation and management). "Volume" refers to the units of service multiplied by relative value units from the fee schedule for physicians and other health professionals. Volume for all years is measured on a common scale, using relative value units for 2015. Volume growth for E&M from 2009 to 2010 is not directly observable because of a change in payment policy for consultations. To compute cumulative volume growth for E&M through 2015, we used a growth rate for 2009 to 2010 of 1.85 percent, which is the average of the 2008 to 2009 growth rate of 1.7 percent and the 2010 to 2011 growth rate of 2.0 percent.

Source: MedPAC analysis of claims data for 100 percent of Medicare beneficiaries.

- From 2000 to 2015, the volume of some services furnished by physicians and other health professionals grew much more than others.
- The volume of tests grew by 88 percent, the volume of "other procedures" (i.e., other than major procedures) grew by 74 percent, and the volume of imaging grew by 70 percent. The comparable growth rates for evaluation and management services and major procedures were only 42 percent and 40 percent, respectively.
- Volume growth increases Medicare spending, limiting funds available for other priorities in the federal budget and requiring taxpayers and beneficiaries to contribute more to the Medicare program. Rapid volume growth may be a sign that some services in the fee schedule for physicians and other health professionals are mispriced.

Chart 7-4. Medicare beneficiaries reported comparable ability to get timely appointments with physicians compared with privately insured individuals, 2013–2016

	Medicare (ages 65 and older)				Private insurance (ages 50–64)			
Survey question	2013	2014	2015	2016	2013	2014	2015	2016
Unwanted delay in getting an appointment: Among those who needed an appointment, "How often did you have to wait longer than you wanted to get a doctor's appointment?"								
For routine care								
Never	73%[b]	72%[a]	72%[a]	68%	69%	69%[a]	69%[a]	67%
Sometimes	20[b]	20[ab]	19[ab]	22	23	23[a]	23[a]	23
Usually	3[b]	3	4	4	4	4	4	5
Always	3	3	3	3	3	3[b]	3	4
For illness or injury								
Never	82[b]	83[ab]	82[ab]	79[a]	77[b]	79[ab]	77[ab]	75[a]
Sometimes	14[b]	12[ab]	13[ab]	16[a]	17	16[ab]	17[a]	19[a]
Usually	2	2	3[b]	2[a]	3	2[b]	3	3[a]
Always	1	1[a]	2	2[a]	2[b]	2[a]	2	3[a]

Note: Numbers may not sum to 100 percent due to rounding. Missing responses ("Don't Know" or "Refused") are not presented. Overall sample sizes for each group (Medicare and privately insured) were 4,000 in all years. Sample sizes for individual questions varied.
[a] Statistically significant difference (at a 95 percent confidence level) between the Medicare and privately insured samples in the given year.
[b] Statistically significant difference (at a 95 percent confidence level) from 2016 within the same insurance coverage category.

Source: MedPAC-sponsored annual telephone surveys conducted 2013–2016.

- Most Medicare beneficiaries have one or more doctor appointments in a given year. Their ability to schedule timely appointments is one indicator of access that we examine.
- Medicare beneficiaries (ages 65 and older) report similar access to physicians for appointments as compared with privately insured individuals ages 50 to 64. For example, in 2016, 68 percent of Medicare beneficiaries compared with 67 percent of privately insured individuals reported "never" having to wait longer than they wanted to get an appointment for routine care.
- Medicare beneficiaries reported slightly more timely appointments for injury and illness as compared with their privately insured counterparts.
- Appointment scheduling for illness and injury is better than for routine care appointments for both Medicare beneficiaries and privately insured individuals.

Chart 7-5. Medicare and privately insured patients who were looking for a new physician reported more difficulty finding one in primary care, 2013–2016

	Medicare (ages 65 and older)				Private insurance (ages 50–64)			
Survey question	2013	2014	2015	2016	2013	2014	2015	2016
Looking for a new physician: "In the past 12 months, have you tried to get a new …?" (Percent answering "Yes")								
Primary care physician	7%	8%	7%[a]	8%[a]	8%	8%	9%[a]	10%[a]
Specialist	14	17	16	18	16[b]	17	18	18
Getting a new physician: Among those who tried to get an appointment with a new physician, "How much of a problem was it finding a primary care doctor/specialist who would treat you? Was it …"								
Primary care physician								
No problem	70	67	67	64	67	63	63	63
Small problem	11	16	18	15	15	16	18	16
Big problem	17	15	14	20	18	19	17	20
Specialist								
No problem	86	85	87[ab]	82	87[b]	85	82[a]	79
Small problem	8	7	7	10	6	9	8	9
Big problem	5	7	6	8[a]	7	6[b]	9	11[a]

Note: Numbers may not sum to 100 percent due to rounding. Missing responses ("Don't Know" or "Refused") are not presented. Overall sample sizes for each group (Medicare and privately insured) were 4,000 in all years. Sample sizes for individual questions varied.
[a] Statistically significant difference (at a 95 percent confidence level) between the Medicare and privately insured samples in the given year.
[b] Statistically significant difference (at a 95 percent confidence level) from 2016 within the same insurance coverage category.

Source: MedPAC-sponsored annual telephone surveys, conducted 2013–2016.

- In 2016, only 8 percent of Medicare beneficiaries and 10 percent of privately insured individuals reported looking for a new primary care physician. This finding suggests that most people were either satisfied with their current physician or did not need to look for one.
- Of the 8 percent of Medicare beneficiaries who looked for a new primary care physician in 2016, 35 percent reported problems finding one: 20 percent reported their problem as "big," and 15 percent reported their problem as "small." Although this number indicates that only about 3 percent of the total Medicare population reported problems finding a primary care physician, the Commission is concerned about the continuing trend of greater problems accessing primary care.
- Of the 10 percent of privately insured individuals who looked for a new primary care physician in 2016, 36 percent reported problems finding one: 20 percent reported their problem as "big," and 16 percent reported their problem as "small."
- In 2016, Medicare beneficiaries and privately insured individuals were more likely to report problems accessing a new primary care physician than a new specialist.

Chart 7-6. Medicare beneficiaries' access to physician care was comparable to privately insured individuals, and minorities in both groups reported unwanted delays more frequently, 2016

	Medicare (ages 65 and older)			Private insurance (ages 50–64)		
Survey question	All	White	Minority	All	White	Minority
Unwanted delay in getting an appointment: Among those who needed an appointment, "How often did you have to wait longer than you wanted to get a doctor's appointment?"						
For routine care						
Never	68%	70%[b]	64%[b]	67%	67%	68%
Sometimes	22	22	23	23	24	22
Usually	4	4	4	5	5	5
Always	3	3[ab]	5[b]	4	4[a]	4
For illness or injury						
Never	79[a]	80[ab]	76[b]	75[a]	76[a]	72
Sometimes	16[a]	16[a]	16	19[a]	19[a]	20
Usually	2[a]	1[a]	2	3[a]	3[a]	3
Always	2[a]	1[ab]	3[b]	3[a]	2[ab]	4[b]

Note: Numbers may not sum to 100 percent due to rounding. Missing responses ("Don't Know" or "Refused") are not presented. Overall sample size for each group (Medicare and privately insured) was 4,000 in 2016. Sample size for individual questions varied.
[a] Statistically significant difference (at a 95 percent confidence level) between the Medicare and privately insured populations in the given race category.
[b] Statistically significant difference (at a 95 percent confidence level) by race within the same insurance category.

Source: MedPAC-sponsored telephone surveys conducted in 2016.

- In 2016, Medicare beneficiaries (ages 65 and older) reported access to physicians for appointments comparable with privately insured individuals ages 50 to 64.
- Access varied by race, with minorities more likely than Whites to report access problems in both insurance categories. For example, in 2016, 80 percent of White Medicare beneficiaries reported "never" having to wait longer than they wanted to get an appointment for an illness or injury compared with 76 percent of minority beneficiaries.

Chart 7-7. Minorities in Medicare are more likely to report problems finding a new specialist than White beneficiaries, 2016

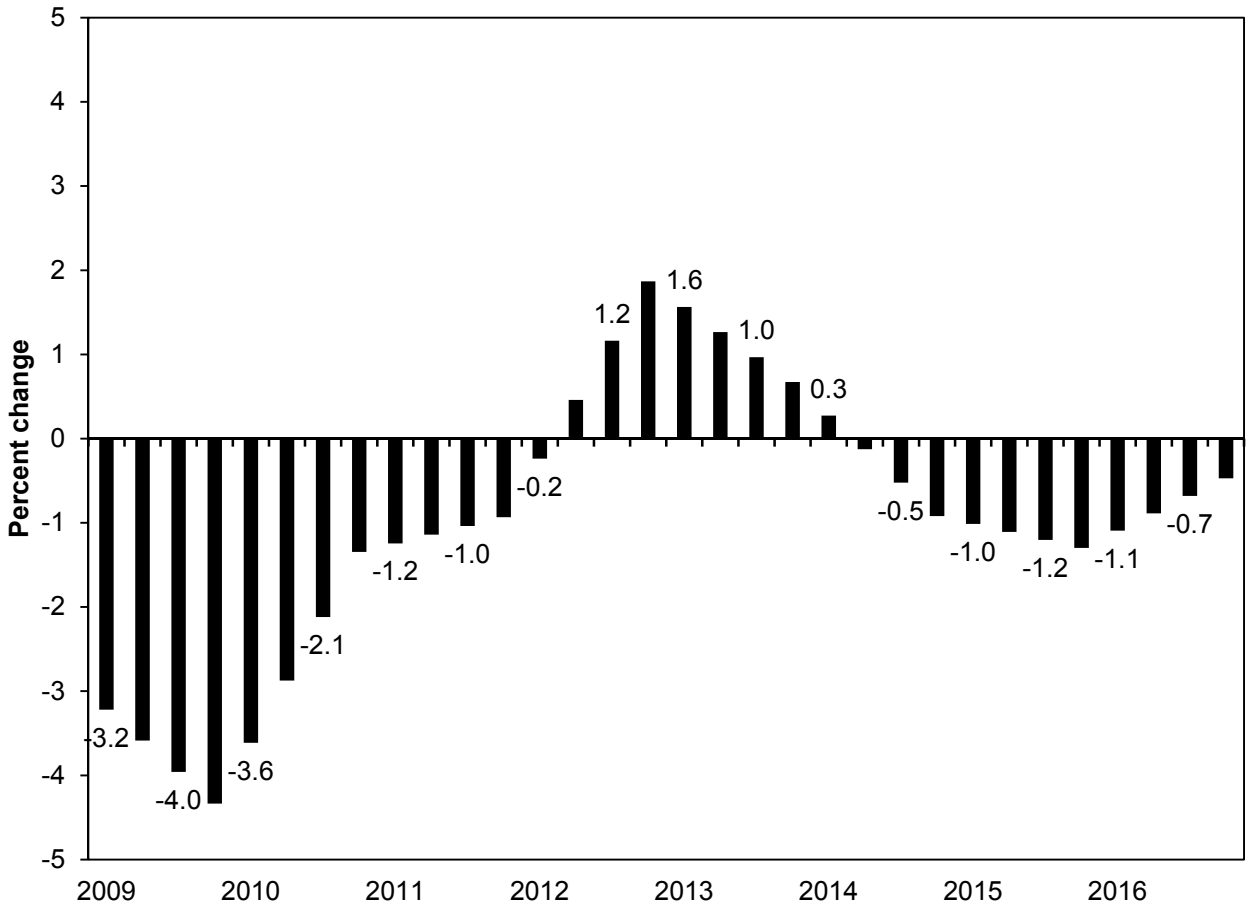
	Medicare (ages 65 and older)			Private insurance (ages 50–64)		
Survey question	All	White	Minority	All	White	Minority
Looking for a new physician: "In the past 12 months, have you tried to get a new …?"						
Primary care physician	8%[a]	8%[a]	9%	10%[a]	10%[a]	9%
Specialist	18	19[b]	14[b]	18	20[b]	13[b]
Getting a new physician: Among those who tried to get an appointment with a new physician, "How much of a problem was it finding a primary care doctor/specialist who would treat you? Was it …"						
Primary care physician						
No problem	64	64	64	63	62	66
Small problem	15	15	16	16	17	13
Big problem	20	20	21	20	20	20
Specialist						
No problem	82[a]	83[b]	74[b]	79	81	75
Small problem	10	9	15	9	9	10
Big problem	8[a]	7	11	11[a]	10	12

Note: Numbers may not sum to 100 percent due to rounding. Missing responses ("Don't Know" or "Refused") are not presented. Overall sample size for each group (Medicare and privately insured) was 4,000 in 2016. Sample size for individual questions varied.
[a] Statistically significant difference (at a 95 percent confidence level) between the Medicare and privately insured populations in the given race category.
[b] Statistically significant difference (at a 95 percent confidence level) by race within the same insurance category.

Source: MedPAC-sponsored telephone surveys conducted in 2016.

- Among the small percentage of Medicare beneficiaries looking for a specialist, minorities were more likely than Whites to report problems finding one.

Chart 7-8. Changes in physicians' professional liability insurance premiums, 2009–2016

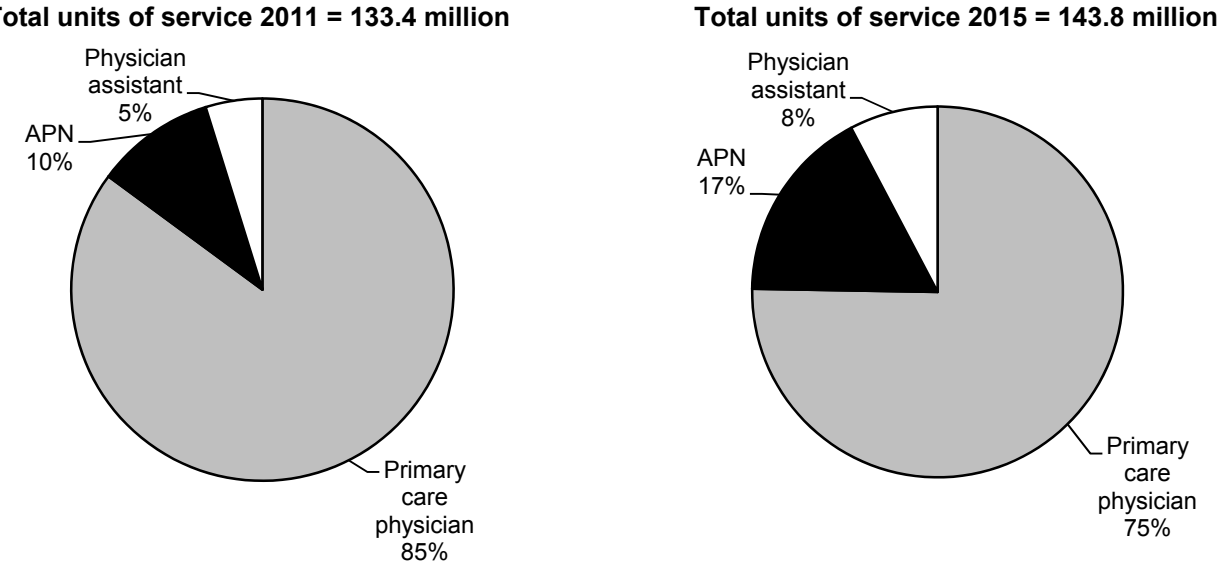


Note: Bars represent a four-quarter moving average percent change.

Source: CMS, Office of the Actuary. Data are from CMS's Professional Liability Physician Premium Survey.

- Professional liability insurance (PLI) accounts for 4.3 percent of total payments under the fee schedule for physicians and other health professionals.
- The change in PLI premiums over the last 16 years reflects a cyclical pattern, alternating between periods of low premiums (characterized by high investment returns for insurers and vigorous competition) and high premiums (characterized by declining investment returns and market exit).
- Premiums increased from 2002 through 2006 (data not shown) and then declined from the second quarter of 2007 through the first quarter of 2012. Premiums grew slowly from the second quarter of 2012 through the first quarter of 2014 and began falling again during the second quarter of 2014.

Chart 7-9. The shares of primary care services billed by APNs and physician assistants have grown, 2011 and 2015



Note: APN (advanced practice nurse). Primary care services are specified services—office visits, home visits, visits to patients in extended care facilities, transitional care management, chronic care management, annual wellness visits, and "welcome to Medicare" visits—when billed by nurse practitioners; clinical nurse specialists; physician assistants; or physicians with a specialty designation of family medicine, general internal medicine, geriatric medicine, or pediatric medicine.

Source: MedPAC analysis of claims data for 100 percent of beneficiaries.

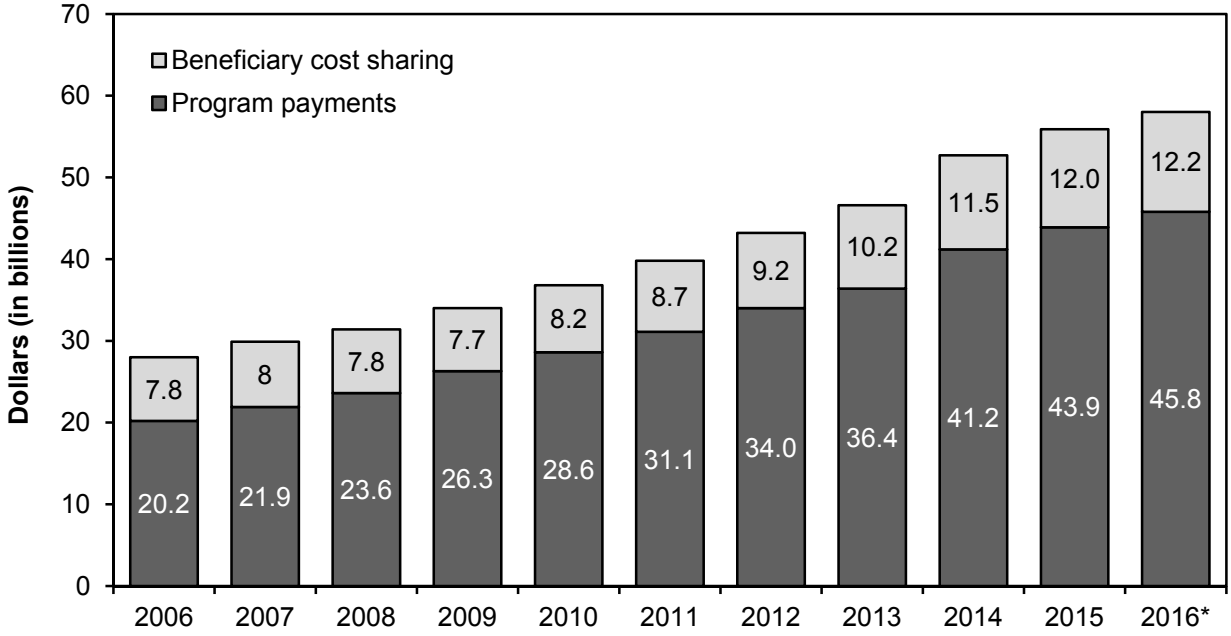
- The distribution of primary care services among the clinicians who bill Medicare for these services—primary care physicians (PCPs), APNs, and physician assistants—has changed over time.

- In 2011, primary care services totaled 133.4 million units of service. PCPs billed for most of the services (113.5 million, or 85 percent), followed by APNs (13.4 million, or 10 percent), and physician assistants (6.5 million, or 5 percent).

- By 2015, total primary care services had grown to 143.8 million units of service, an increase of 8 percent compared with 2011. PCPs continued to account for most of these services, but their billed services decreased to 108.2 million, or 75 percent of the total. Primary care services billed by APNs grew to 24.5 million, or 17 percent. Primary care services billed by physician assistants increased to 11.1 million, or 8 percent.

- Units of service billed by primary care physicians include some services—not identifiable as such in claims data—provided by APNs and physician assistants but billed as "incident to" or under the direct supervision of physicians. Medicare pays for such services as if physicians had personally furnished them.

Chart 7-10. Spending on hospital outpatient services covered under the outpatient PPS, 2006–2016



Note: PPS (prospective payment system). Spending amounts are for services covered by the Medicare outpatient PPS. They do not include services paid on separate fee schedules (e.g., ambulance services and durable medical equipment) or those paid on a cost basis (e.g., corneal tissue acquisition and flu vaccines) or payments for clinical laboratory services. *Estimate.

Source: CMS, Office of the Actuary.

- Overall spending by Medicare and beneficiaries on hospital outpatient services covered under the outpatient PPS from calendar year 2006 to 2016 increased by 107 percent, reaching an estimated $58.0 billion. The Office of the Actuary projects continued growth in total spending, averaging 9.3 percent per year from 2016 to 2018.

- In 2001, the first full year of the outpatient PPS, spending under the PPS was $20.1 billion, including $12.1 billion by the program and $8.0 billion in beneficiary cost sharing (data not shown). The Office of the Actuary estimates that spending under the outpatient PPS was $58 billion in 2016 ($45.8 billion in program spending, $12.2 billion in beneficiary copayments). We estimate that the outpatient PPS accounted for about 7 percent of total Medicare program spending in 2016.

- Beneficiary cost sharing under the outpatient PPS includes the Part B deductible and coinsurance for each service. Under the outpatient PPS, beneficiary cost sharing is generally higher than for other sectors; in 2015, it was about 21 percent.

Chart 7-11. Most hospitals provide outpatient services

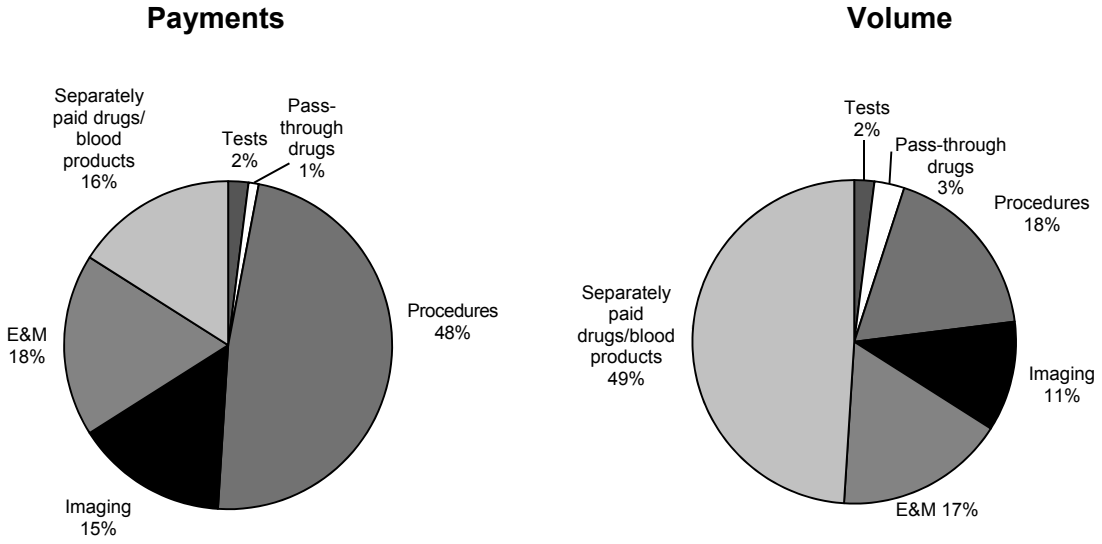
Year	Hospitals	Percent offering		
		Outpatient services	Outpatient surgery	Emergency services
2006	3,651	94%	86%	N/A
2008	3,607	94	87	N/A
2010	3,518	95	90	N/A
2012	3,483	95	91	93%
2013	3,456	96	92	93
2014	3,429	96	92	93
2016	3,370	96	93	93

Note: N/A (not applicable). We list emergency services from 2006 through 2010 as "N/A" because the data source we used in this chart changed the variable for identifying hospitals' provision of emergency services. We believe this change in variable definition makes it appear that the percentage of hospitals providing emergency services increased sharply from 2010 to 2012, but we question whether such a large increase actually occurred. This chart includes services provided or arranged by short-term hospitals and excludes long-term, Christian Science, psychiatric, rehabilitation, children's, critical access, and alcohol/drug hospitals.

Source: Medicare Provider of Services files from CMS.

- The number of hospitals that furnish services under Medicare's outpatient prospective payment system has declined slowly since 2006.
- The share of hospitals providing outpatient services remained stable, and the share offering outpatient surgery steadily increased from 2006 through 2013 and has remained stable since then. The share offering emergency services has remained stable over the period we are able to measure accurately.

Chart 7-12. Payments and volume of services under the Medicare hospital outpatient PPS, by type of service, 2015



Note: PPS (prospective payment system), E&M (evaluation and management). Payments include both program spending and beneficiary cost sharing but do not include hold-harmless payments. Services are grouped into the following categories, according to the Berenson–Eggers Type of Service classification developed by CMS: evaluation and management, procedures, imaging, and tests. Pass-through drugs and separately paid drugs and blood products are classified by their payment status indicator.

Source: MedPAC analysis of standard analytic file of outpatient claims for 2015.

- Hospitals provide many types of services in their outpatient departments, including emergency and clinic visits, imaging and other diagnostic services, laboratory tests, and ambulatory surgery.

- The payments for services are distributed differently from volume. For example, in 2015, procedures accounted for 48 percent of payments but only 18 percent of volume.

- Procedures (e.g., endoscopies, surgeries, and skin and musculoskeletal procedures) accounted for the greatest share of payments for services (48 percent) in 2015, followed by evaluation and management services (18 percent), separately paid drugs and blood products (16 percent), and imaging services (15 percent).

- Relative to previous years, tests accounted for a much smaller share of volume in 2015. In 2015, CMS began to package many tests as part of a larger payment bundle rather than pay for them separately as had been done in previous years. We include only separately paid items in this analysis, so increased packaging of tests creates an apparent decrease in the volume of tests.

Chart 7-13. Hospital outpatient services with the highest Medicare expenditures, 2015

APC title	Share of payments	Volume (thousands)	Payment rate
Total	48%		
All emergency visits	7	13,324	$297
Clinic visits	5	28,770	96
Level II endovascular procedures	3	191	9,628
Extended assessment & management composite	3	1,549	1,235
Level II implantation of cardioverter-defibrillators	3	48	30,818
Diagnostic cardiac catheterization	2	381	2,576
Level II cardiac imaging	2	861	1,141
Level II intraocular procedures	2	514	1,753
Level III pacemaker and similar procedures	2	90	9,493
Lower gastrointestinal endoscopy	1	1,108	790
Level II echocardiogram without contrast	1	1,860	423
Level III radiation therapy	1	1,499	508
Level III electrophysiologic procedures	1	49	14,362
Level III endovascular procedures	1	41	14,846
Level II laparoscopy	1	156	3,779
Level III nerve injections	1	814	672
Level I plain film including bone density measurement	1	9,459	59
Level III drug administration	1	4,947	108
Level III cystourethroscopy and other genitourinary procedures	1	266	2,085
Level V drug administration	1	1,679	285
Level I upper gastrointestinal procedures	1	820	746
Combined abdomen and pelvis CT with contrast	1	1,280	376
Level I endovascular procedures	1	109	4,539
Level IV drug administration	1	2,730	173
Level II drug administration	1	8,698	53
Level IV cystourethroscopy and other genitourinary procedures	1	150	3,114
PET imaging	1	357	1,286
Average APC		449	167

Note: APC (ambulatory payment classification), CT (computed tomography), PET (positron emission tomography). The payment rate for "all emergency visits" is a weighted average of payment rates from 10 APCs. The shares of payments for the 27 APC categories do not add to the total share of payments (48 percent) because of rounding. The average APC figures in the last line represent averages for all APCs.

Source: MedPAC analysis of 100 percent analytic files of outpatient claims for calendar year 2015.

- Although the outpatient prospective payment system covers thousands of services, expenditures are concentrated in a few categories that have high volume, high payment rates, or both.

Chart 7-14. Effects of SCH transfer payments on hospitals' outpatient revenue, 2013–2015

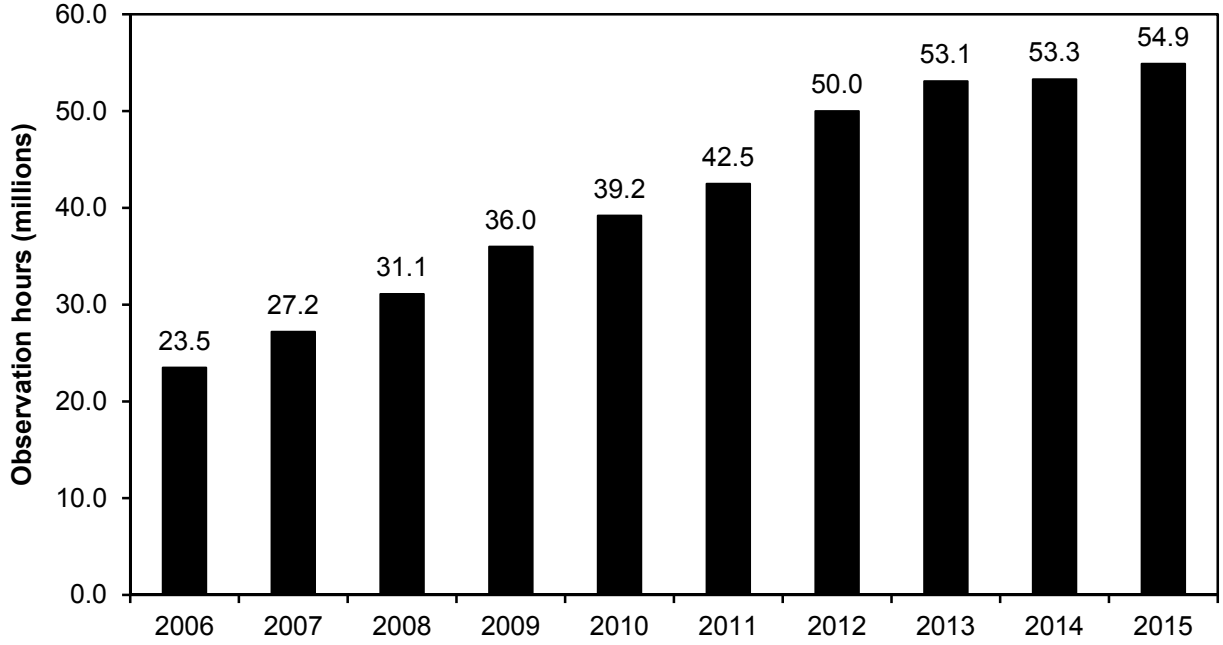
Hospital group	2013 Number of hospitals	2013 Share of payments from hold-harmless and SCH transfer	2014 Number of hospitals	2014 Share of payments from SCH transfer	2015 Number of hospitals	2015 Share of payments from SCH transfer
All hospitals	2,997	0.1%	2,950	0.0%	2,894	0.0%
Urban	2,137	–0.4	2,111	–0.4	2,147	–0.4
Rural SCHs	368	6.2	373	5.6	353	5.6
Rural ≤100 beds	366	0.7	346	–0.4	294	–0.4
Other rural	126	–0.4	120	–0.4	100	–0.4
Major teaching	260	–0.3	273	–0.3	284	–0.3
Other teaching	708	–0.2	700	–0.2	693	–0.2
Nonteaching	2,029	0.5	1,977	0.4	1,917	0.3

Note: SCH (sole community hospital).

Source: MedPAC analysis of Medicare Cost Report files from CMS.

- In 2006, CMS implemented a policy (the "SCH transfer") that increased outpatient prospective payment (PPS) rates to rural SCHs by 7.1 percent above the standard PPS rates. This policy is made budget neutral by reducing payments to all other hospitals.
- SCHs and rural hospitals that had 100 or fewer beds received hold-harmless (HH) payments through the end of calendar year 2012. The HH payments sunset on January 1, 2013.
- This table reflects the effects of the HH and SCH transfer policies for hospital categories in 2013, 2014, and 2015. We obtained the data for this table from the hospitals' 2013, 2014, and 2015 cost reports. Many hospitals have 2013 cost reports that cover fiscal year 2013, which means that their cost reports covered part of 2012 and 2013. For those hospitals, payments through the HH policy affected their 2013 cost reports even though that policy expired at the end of calendar year 2012.
- HH payments and the SCH transfer represented 0.1 percent of total outpatient PPS payments for all hospitals in 2013. However, the percentage of total outpatient payments from these policies was 6.2 percent for rural SCHs and 0.7 percent for small rural hospitals. The SCH transfer payments to rural SCHs represented 5.6 percent of their outpatient revenue in 2014 and 2015. Also, the SCH transfer policy reduced outpatient payments to small rural hospitals by 0.4 percent in both 2014 and 2015.

Chart 7-15. Number of observation hours increased, 2006–2015



Source: MedPAC analysis of Limited Data Set claims for the outpatient prospective payment system 2006–2015.

- Hospitals use observation care to determine whether a patient should be hospitalized for inpatient care, transferred to an alternative treatment setting, or sent home.
- Medicare began providing separate payments to hospitals for some observation services on April 1, 2002. Previously, the observation services were packaged into the payments for the emergency department or clinic visits that occurred with observation care.
- The number of observation hours (both packaged and separately paid) has increased substantially, from about 23 million in 2006 to nearly 55 million in 2015. Before 2006, it was difficult to count the total number of observation hours because hospitals were not required to report packaged observation hours on Medicare claims.

Chart 7-16. Number of Medicare-certified ASCs increased by 11 percent, 2008–2015

	2008	2009	2010	2011	2012	2013	2014	2015
Medicare payments (billions of dollars)	$3.1	$3.2	$3.3	$3.4	$3.6	$3.7	$3.8	$4.1
New centers (during year)	282	220	192	195	173	170	180	149
Closed or merged centers (during year)	81	112	110	118	108	107	94	76
Net total number of centers (end of year)	4,921	5,029	5,111	5,188	5,253	5,316	5,402	5,475
Net percent growth in number of centers from previous year	—	2.2%	1.6%	1.5%	1.3%	1.2%	1.6%	1.4%
Percent of all centers that are:								
For profit	95%	95	95	95	95	95	95	96
Nonprofit	4	3	3	3	3	3	3	2
Government	1	2	1	1	1	2	2	2
Urban	92	92	92	92	93	93	93	93
Rural	8	8	8	8	7	7	7	7

Note: ASC (ambulatory surgical center). Medicare payments include program spending and beneficiary cost sharing for ASC facility services. Totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Provider of Services file from CMS 2015. Payment data are from CMS, Office of the Actuary.

- ASCs are distinct entities that furnish ambulatory surgical services not requiring an overnight stay. The most common ASC procedures are cataract removal with lens insertion, upper gastrointestinal endoscopy, colonoscopy, and nerve procedures.
- Total Medicare payments for ASC services increased by 4.0 percent per year, on average, from 2008 through 2015. Payments per ASC fee-for-service beneficiary grew by 3.5 percent per year during this period (data not shown). Between 2014 and 2015, total payments rose by 7.9 percent, and payments per beneficiary grew by 5.2 percent.
- The number of Medicare-certified ASCs grew at an average annual rate of greater than 1 percent from 2008 through 2015. Each year from 2008 through 2015, an average of 195 new facilities entered the market, while an average of 101 closed or merged with other facilities.
- The slower growth in the number of ASCs from 2010 through 2015 may reflect the substantially higher rates that Medicare pays for ambulatory surgical services provided in hospital outpatient departments than in ASCs, the very slow growth of national health care spending and Medicare spending, and the significant increase in hospital employment of physicians.

SECTION 8

Post-acute care

Skilled nursing facilities
Home health services
Inpatient rehabilitation facilities
Long-term care hospitals

Chart 8-1. Number of post-acute care providers remained stable in 2016

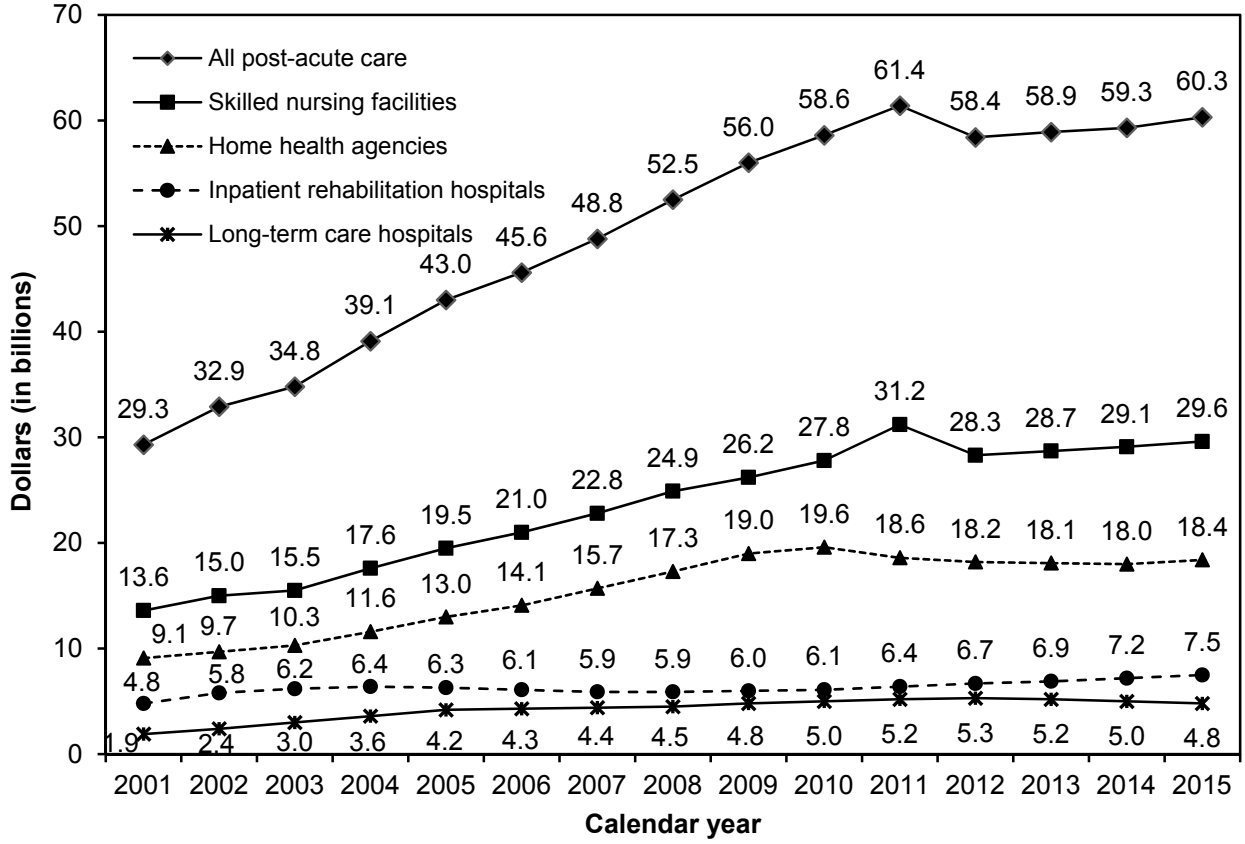
	2009	2011	2013	2014	2015	2016	Average annual percent change 2009–2016	Percent change 2015–2016
Home health agencies	10,568	12,054	12,613	12,461	12,346	12,313	2.2%	–0.3%
Inpatient rehabilitation facilities	1,196	1,165	1,161	1,177	1,182	1,188	–0.1	0.5
Long-term care hospitals	427	437	432	422	426	427	0.0	0.2
Skilled nursing facilities	15,062	15,120	15,163	15,173	15,223	15,263	0.2	0.3

Note: The skilled nursing facility count does not include swing beds.

Source: MedPAC analysis of data from the Provider of Services files from CMS.

- The number of home health agencies declined in 2016 after several years of substantial growth. The decline in agencies was concentrated in Texas and Florida, two states that saw considerable growth following the implementation of the prospective payment system in October 2000.
- Most inpatient rehabilitation facilities (IRFs) are distinct units in acute care hospitals; only about one-fifth are freestanding facilities. However, because hospital-based units tend to have fewer beds, they account for only about half of Medicare discharges from IRFs.
- In spite of a moratorium on new long-term care hospitals (LTCHs) beginning in October 2007, the number of these facilities continued to grow through 2011. The number of LTCHs has since decreased from 437 in 2011 to 427 in 2016.
- The total number of skilled nursing facilities (SNFs) has increased slightly since 2007, and the mix of facilities shifted from hospital-based to freestanding facilities. In 2015, hospital-based facilities made up 5 percent of all SNF facilities, down from 8 percent in 2005 (data not shown).

Chart 8-2. Growth in Medicare's fee-for-service post-acute care expenditures has slowed since 2012



Note: These calendar year–incurred data represent only program spending; they do not include beneficiary copayments.

Source: CMS Office of the Actuary 2017.

- Increases in fee-for-service (FFS) spending on post-acute care have slowed in part because of expanded enrollment in managed care under Medicare Advantage (Medicare Advantage spending is not included in this chart). The slowest growth in FFS spending on post-acute care since 2001 occurred between 2012 and 2014. Spending grew about 2 percent between 2014 and 2015.

- FFS spending on inpatient rehabilitation facilities declined between 2004 and 2008, reflecting policies intended to ensure that patients who do not need this intensity of services are treated in less-intensive settings. However, spending on inpatient rehabilitation hospitals has increased since 2008.

- FFS spending on skilled nursing facilities increased sharply in 2011, reflecting CMS's adjustment for the implementation of the new case-mix groups (resource utilization groups, version IV) beginning October 2010. Once CMS established that the adjustment it made was too large, it lowered the adjustment, and spending dropped in 2012.

Chart 8-3. Freestanding SNFs and for-profit SNFs accounted for the majority of facilities, Medicare stays, and Medicare spending

	Facilities		Medicare-covered stays		Medicare payments (billions)	
Type of SNF	2010	2015	2010	2015	2010	2015
Totals	15,207	15,052	2,418,442	2,359,374	$26.2	$27.2
Freestanding	94%	95%	93%	95%	96%	97%
Hospital based	6	5	7	5	4	3
Urban	70	72	81	83	83	85
Rural	30	28	19	17	17	15
For profit	70	70	70	71	74	75
Nonprofit	25	24	25	24	22	21
Government	5	6	5	4	3	4

Note: SNF (skilled nursing facility). Totals may not sum to 100 percent due to rounding and missing values.

Source: MedPAC analysis of the Provider of Services and Medicare Provider Analysis and Review files, 2010 and 2015.

- The mix of where beneficiaries receive SNF services has shifted toward freestanding, urban, and for-profit facilities.
- In 2015, freestanding facilities accounted for 95 percent of stays and 97 percent of Medicare's payments.
- Urban facilities accounted for 72 percent of facilities, 83 percent of stays, and 85 percent of Medicare payments in 2015.
- In 2015, for-profit facilities accounted for 70 percent of facilities and higher shares of stays and Medicare payments (71 percent and 75 percent, respectively).

Chart 8-4. SNF admissions increased but stays were shorter in 2015 compared with 2014

Volume measure	2010	2012	2013	2014	2015	Percent change 2014–2015
Covered admissions per 1,000 FFS beneficiaries	72	68	67	66	68	3.2%
Covered days (in thousands)	1,938	1,861	1,835	1,808	1,792	–0.9
Covered days per admission	27.1	27.4	27.6	27.6	26.5	–4.0

Note: SNF (skilled nursing facility), FFS (fee-for-service). Data include 50 states and the District of Columbia. Yearly figures presented in the table are rounded, but the percent-change column was calculated using unrounded data.

Source: Calendar year data from CMS, Office of Information Products and Data Analytics, 2017.

- In 2015, 4.4 percent of beneficiaries used SNF services, down slightly from 2011 (data not shown).
- Between 2014 and 2015, admissions per 1,000 FFS beneficiaries increased 3.2 percent, consistent with the increase in inpatient hospital use. An acute hospital stay of three or more days is a prerequisite for Medicare coverage of SNF care.
- During the same period, covered days declined at a faster rate (–4.0 percent), so there were fewer covered days per admission (26.5 days).

Chart 8-5. Freestanding SNF Medicare margins remained high in 2015

	2004	2006	2008	2010	2012	2013	2014	2015
All	13.8%	12.8%	16.7%	19.4%	14.1%	13.2%	12.7%	12.6%
Rural	16.1	13.5	17.9	19.4	13.1	11.9	10.6	10.5
Urban	13.3	12.7	16.4	19.4	14.2	13.4	13.1	13.0
Nonprofit	4.1	3.7	7.7	11.2	6.0	5.4	4.4	4.4
For profit	15.9	14.9	18.7	21.3	16.1	15.2	15.0	15.0

Note: SNF (skilled nursing facility).

Source: MedPAC analysis of freestanding SNF cost reports 2004–2015.

- Though lower than in recent years, the Medicare margin for freestanding SNFs in 2015 exceeded 10 percent for the 15th consecutive year (not all years are shown). After reaching over 21 percent in 2011 (not shown), the margins have declined for two reasons: Current law requires market basket increases to be offset by a productivity adjustment, and sequestration began lowering payments in April 2013 by 2 percent on an annualized basis.

- In 2015, on average, urban facilities had higher Medicare margins than rural facilities. For-profit SNFs had considerably higher Medicare margins than nonprofit SNFs, reflecting their larger size, their lower cost growth, and their higher share of the more profitable therapy case-mix groups (the ultra-high and very high groups).

- In 2015, total margins (the margin across all payers and all lines of business) for freestanding facilities remained positive (1.6 percent, data not shown).

Chart 8-6. Cost and payment differences explain variation in Medicare margins for freestanding SNFs in 2015

Characteristic	Highest margin quartile (*n* = 3,144)	Lowest margin quartile (*n* = 3,143)	Ratio of highest quartile to lowest quartile
Cost measures			
Standardized cost per day	$261	$373	0.7
Standardized cost per discharge	$10,973	$14,148	0.8
Average daily census (patients)	89	65	1.4
Average length of stay (days)	43	37	1.2
Revenue measures			
Medicare payment per day	$505	$435	1.2
Medicare payment per discharge	$22,183	$16,120	1.4
Share of days in intensive therapy	87%	78%	1.1
Share of medically complex days	3	4	0.8
Medicare share of facility revenue	25	14	1.8
Patient characteristics			
Case-mix index	1.40	1.31	1.1
Share of dual-eligible beneficiaries	30%	20%	1.5
Share of minority beneficiaries	10	4	2.5
Share of very old beneficiaries	23	27	0.9
Medicaid share of days	64	56	1.1
Facility mix			
Share for profit	88%	57%	N/A
Share urban	79	66	N/A

Note: SNF (skilled nursing facility), N/A (not applicable). Values shown are medians for the quartile. Highest margin quartile SNFs were in the top 25 percent of the distribution of Medicare margins. Lowest margin quartile SNFs were in the bottom 25 percent of the distribution of Medicare margins. "Standardized costs per day" are Medicare costs adjusted for differences in area wages and the case mix (using the nursing component's relative weights) of Medicare beneficiaries. "Intensive therapy days" are days classified into ultra-high and very high rehabilitation case-mix groups. "Very old beneficiaries" are 85 years or older. Quartile figures presented in the table are rounded, but the ratio column was calculated using unrounded data.

Source: MedPAC analysis of freestanding SNF cost reports 2015.

- Medicare margins varied widely across freestanding SNFs. One-quarter of SNFs had Medicare margins at or below 2.4 percent, and one-quarter of facilities had Medicare margins at or above 21.0 percent (data not shown).
- High-margin SNFs had lower costs per day (30 percent lower costs than low-margin SNFs), after adjusting for wage and case-mix differences, and higher revenues per day (1.2 times the revenues per day of low-margin SNFs).
- Facilities with the highest Medicare margins had higher case-mix indexes, higher shares of beneficiaries who were dually eligible for Medicare and Medicaid, and higher shares of minority beneficiaries.

Chart 8-7. Financial performance of relatively efficient SNFs in 2015 reflects a combination of lower cost per day and higher payment per day

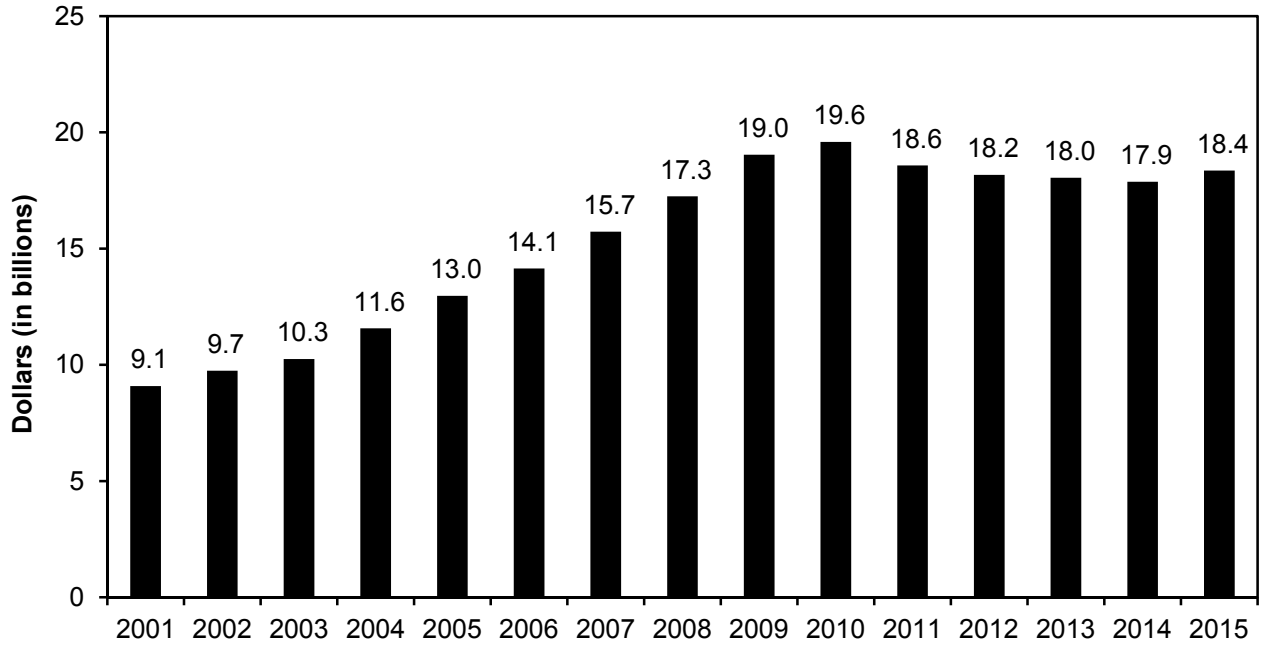
	Relatively efficient SNFs	Other SNFs
Performance in 2015		
Community discharge rate	48.9%	38.6%
Readmission rate	8.7%	10.3%
Standardized cost per day	$283	$308
Medicare revenue per day	$504	$459
Medicare margin	19.4%	11.6%
Total margin	3.4%	1.5%
Facility case-mix index	1.43	1.36
Medicare average length of stay	33 days	39 days
Occupancy rate	88%	86%
Average daily census	101	81
Share of ultra-high therapy days	64%	53%
Share of medically complex days	4.3%	4.2%
Medicaid share of facility days	57%	61%
Share urban	77%	65%
Share for profit	79%	68%

Note: SNF (skilled nursing facility). The analysis includes 11,794 freestanding facilities. SNFs were defined as "relatively efficient" by their cost per day (2012–2014) and two quality measures (community discharge and readmission rates) for the same period (2012–2014). Relatively efficient SNFs were those in the best third of the distribution of one measure and not in the bottom third on any measure in each of three years. Nine percent of SNFs qualified as relatively efficient. Costs per day were standardized for differences in case mix (using the nursing component relative weights) and wages. Quality measures were rates of risk-adjusted community discharge and readmission for patients with potentially avoidable conditions during the SNF stay. Quality measures were calculated for all facilities with at least 25 stays. "Ultra-high therapy days" include days with at least 720 minutes per week of therapy. "Medically complex days" are those assigned to clinically complex or special-care case-mix groups.

Source: MedPAC analysis of quality measures and Medicare cost report data for 2012–2015.

- "Relatively efficient SNFs" are defined as consistently providing relatively low-cost and high-quality care compared with other SNFs.
- Compared with other SNFs in 2015, relatively efficient SNFs furnished considerably higher quality (higher discharge to community rates and lower readmission rates) and had costs per day that were 8 percent lower.
- Compared with other SNFs in 2015, relatively efficient SNFs treated more complex patients, had a higher share of ultra-high therapy days, were larger, had slightly higher occupancy rates, and had higher average daily censuses.

Chart 8-8. Spending on home health care, 2001–2015



Source: CMS Office of the Actuary 2017.

- In October 2000, the prospective payment system (PPS) replaced the previous Medicare payment system for home health care, which was a cost-based system that tied payment to the number of visits provided and per beneficiary spending limitations.
- Home health care spending has risen rapidly under the PPS. Spending rose by about 10 percent per year between 2001 and 2009; spending peaked in 2010 and declined for a period before increasing again in 2015.

Chart 8-9. Trends in the provision of home health care

	2002	2014	2015	Percent change 2014–2015	Cumulative percent change 2002–2015
Number of users (in millions)	2.5	3.4	3.5	0.9%	37.3%
Share of FFS beneficiaries who used home health care	7.2%	9.1%	9.1%	1.1	27.1
Episodes (in millions)	4.1	6.6	6.6	0.3	60.6
Episodes per home health patient	1.6	1.9	1.9	–0.6	17.0
Visits per home health episode	18.9	17.5	17.5	–0.4	–7.7
Visits per home health patient	30.8	33.6	33.3	–0.9	8.0
Average payment per episode	$2,335	$2,689	$2,742	2.4	17.4

Note: FFS (fee-for-service). Yearly figures presented in the table are rounded, but the percent-change columns were calculated using unrounded data.

Source: MedPAC analysis of the home health standard analytic file.

- The number of home health episodes has increased since 2002. The number of beneficiaries using home health care has also increased since 2002, but at a lower rate than the growth in episodes. In 2015, 3.5 million beneficiaries used the home health benefit.

- The number of visits per episode decreased from 2002 to 2015. However, this decline was offset by an increase in the average number of episodes per patient, which increased from 1.6 in 2002 to 1.9 in 2015. Beneficiaries received fewer visits in an episode but had more 60-day episodes of care. As a result, the average number of visits increased from about 31 visits per home health user in 2002 to about 33 visits per home health user in 2015.

Chart 8-10. Most home health episodes are not preceded by hospitalization or PAC stay

	Number of episodes (in millions)			Percent change	
	2001	2011	2015	2001–2011	2011–2015
Episodes preceded by a hospitalization or PAC stay	1.9	2.2	2.2	14.8%	1.0%
Episodes not preceded by a hospitalization or PAC stay	2.1	4.7	4.4	127.4	–6.5
Total	3.9	6.9	6.6	74.0	–4.1

Note: PAC (post-acute care). "Episodes preceded by a hospitalization or PAC stay" refers to episodes that occurred less than 15 days after a stay in a hospital (including a long-term care hospital), skilled nursing facility, or inpatient rehabilitation facility. "Episodes not preceded by a hospitalization or PAC stay" refers to episodes for which there was no hospitalization or PAC stay in the previous 15 days. Numbers may not sum due to rounding.

Source: 2015 home health standard analytic file, 2015 Medicare Provider and Analysis Review file, and 2015 skilled nursing facility standard analytic file.

- The rise in the average number of episodes per beneficiary since 2001 coincides with a relative shift away from using home health care as a PAC service.
- Between 2001 and 2011, the number of episodes not preceded by a hospitalization or PAC stay increased by about 127 percent compared with an almost 15 percent increase in episodes that were preceded by a hospitalization or PAC stay. During that same period, the share of all episodes not preceded by a hospitalization or PAC stay rose from about 54 percent to 67 percent (data not shown).
- Beneficiaries for whom the majority of home health episodes in 2015 were preceded by a hospitalization or other post-acute stay had different characteristics from community-admitted beneficiaries. Community-admitted home health users were more likely to be dually eligible for Medicare and Medicaid, to have had more home health episodes, and to have had more episodes with a high share of home health aide services compared with those home health users coming from a hospitalization or other PAC stay (data not shown). Community-admitted users generally had fewer chronic conditions, tended to be older, and were more likely to have dementia or Alzheimer's disease (data not shown).

Chart 8-11. Medicare margins for freestanding home health agencies

	2014	2015	Percent of agencies 2015
All	10.8%	15.6%	100%
Geography			
Mostly urban	11.2	16.0	85
Mostly rural	8.5	13.2	15
Type of control			
For profit	12.2	16.7	89
Nonprofit	6.4	12.1	11
Volume quintile (lowest to highest)			
First	4.0	7.4	20
Second	5.4	9.6	20
Third	7.6	12.4	20
Fourth	10.0	13.8	20
Fifth	12.5	17.6	20

Note: Agencies are characterized as urban or rural based on the residence of the majority of their patients.

Source: MedPAC analysis of 2014–2015 Medicare Cost Report files from CMS.

- In 2015, freestanding home health agencies (HHAs) (85 percent of all HHAs) had an aggregate margin of 15.6 percent. HHAs that served mostly urban patients in 2015 had an aggregate margin of 16.0 percent; HHAs that served mostly rural patients had an aggregate margin of 13.2 percent. The 2015 margin is consistent with the historically high margins the home health industry has experienced since the PPS was implemented in 2000. The margin from 2001 to 2014 averaged 16.5 percent (data not shown), indicating that most agencies have been paid well in excess of their costs under the prospective payment system.

- For-profit agencies in 2015 had an average margin of 16.7 percent, and nonprofit agencies had an average margin of 12.1 percent.

- Agencies that serve more patients have higher margins. The agencies in the lowest volume quintile in 2015 had an aggregate margin of 7.4 percent, while those in the highest quintile had an aggregate margin of 17.6 percent.

Chart 8-12. Number of IRF FFS patients increased in 2015

	2008	2013	2014	2015	Average annual percent change 2008–2014	Percent change 2014–2015
Number of IRF cases	356,000	373,000	376,000	381,000	0.9%	1.5%
Cases per 10,000 FFS beneficiaries	100.4	99.1	99.3	101.0	–0.2	1.7
Payment per case	$16,646	$18,258	$18,632	$19,116	1.9	2.6
Average length of stay (in days)	13.3	12.9	12.8	12.7	–0.6	–0.7

Note: IRF (inpatient rehabilitation facility), FFS (fee-for-service). Numbers of cases reflect Medicare FFS utilization only. Yearly figures presented in the table are rounded, but the percent-change columns were calculated using unrounded data.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- The number of Medicare FFS IRF cases grew rapidly throughout the 1990s and the early years of the IRF prospective payment system, reaching a peak of about 495,000 in 2004 (data not shown).
- After CMS renewed its enforcement of the compliance threshold in 2004, IRF volume declined substantially. Between 2004 and 2008, the number of IRF cases fell almost 8 percent per year (data not shown). After 2008, volume began to increase slowly, rising less than 1 percent per year, on average, from 2008 to 2014. Between 2014 and 2015, volume growth picked up, rising 1.5 percent.
- In 2015, the number of IRF cases per 10,000 FFS beneficiaries was 101, up 1.7 percent from the previous year. Relatively few Medicare beneficiaries use IRF services because, to qualify for Medicare coverage, IRF patients must be able to both tolerate and benefit from intensive rehabilitation therapy, which typically consists of at least three hours of therapy a day for at least five days a week.
- Medicare payments per IRF case rose, on average, 1.9 percent per year between 2008 and 2014. Payments per case grew 2.6 percent between 2014 and 2015.

Chart 8-13. Most common types of inpatient rehabilitation facility cases, 2015

Type of case	Share of cases
Stroke	19.8%
Other neurological conditions	13.0
Fracture of the lower extremity	11.5
Debility	10.7
Brain injury	9.3
Other orthopedic conditions	7.9
Major joint replacement of lower extremity	6.8
Cardiac conditions	6.0
Spinal cord injury	4.7
All other	10.5

Note: "Other neurological conditions" includes multiple sclerosis, Parkinson's disease, polyneuropathy, and neuromuscular disorders. "Fracture of the lower extremity" includes hip, pelvis, and femur fractures. Patients with debility have generalized deconditioning not attributable to other conditions. "Other orthopedic conditions" excludes fractures of the hip, pelvis, and femur and hip and knee replacements. "All other" includes conditions such as amputations, arthritis, and pain syndrome. Numbers may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS.

- In 2015, the most frequently occurring case type among beneficiaries admitted to inpatient rehabilitation facilities (IRFs) was stroke, which accounted for 19.8 percent of Medicare fee-for-service cases.

- The number and share of Medicare cases with other neurological conditions has grown significantly over the past decade. Between 2004 and 2014, the number of other neurological cases grew 98 percent, even as the total number of Medicare IRF cases declined 21 percent (data not shown). Between 2004 and 2015, as a share of IRF cases, other neurological conditions rose from 5.2 percent to 13.0 percent (2004 data not shown).

Chart 8-14. Inpatient rehabilitation facilities' Medicare margin by type of facility, 2004–2015

	2004	2006	2008	2010	2012	2014	2015
All IRFs	16.7%	12.5%	9.3%	8.6%	11.2%	12.5%	13.9%
Hospital based	12.2	9.9	3.9	–0.6	0.6	1.1	2.0
Freestanding	24.7	17.5	18.2	21.4	23.9	25.3	26.7
Urban	17.0	12.8	9.6	9.0	11.6	12.9	14.2
Rural	13.2	10.0	6.9	4.7	6.5	6.4	8.6
Nonprofit	12.8	10.9	5.3	2.1	2.4	2.3	3.6
For profit	24.4	16.3	16.9	19.6	22.9	24.0	25.0

Note: IRF (inpatient rehabilitation facility).

Source: MedPAC analysis of cost report data from CMS.

- Between 2014 and 2015, the aggregate IRF Medicare margin rose from 12.5 percent to 13.9 percent. After a period of declining, though healthy, margins, the aggregate margin reached a low of 8.3 percent in 2009 (data not shown). Since then, the aggregate margin has risen steadily.

- Margins varied by ownership, with for-profit IRFs having substantially higher margins. At the same time, Medicare margins in freestanding IRFs far exceeded those of hospital-based facilities. Nevertheless, a quarter of hospital-based IRFs had Medicare margins greater than 11 percent (data not shown), indicating that many hospitals can manage their IRF units profitably. Further, despite the comparatively low average margin in hospital-based IRFs, evidence suggests that these units make a positive financial contribution to their parent hospitals. Commission analysis found that in 2013, the aggregate Medicare margin for acute care hospitals with IRF units was a percentage point higher than the margin of hospitals without IRF units (data not shown).

- Higher unit costs are a major driver of low margins in both hospital-based and nonprofit IRFs. However, the Commission has found that the mix of case types in IRFs is also correlated with profitability. IRFs with the highest margins have a higher share of neurological cases and a lower share of stroke cases. Further, we have observed differences in the types of stroke and neurological cases admitted to high- and low-margin IRFs. Stroke cases in the highest margin IRFs are much less likely to have paralysis than are stroke cases in the lowest margin IRFs. Neurological cases in the highest margin IRFs are much more likely to be neuromuscular disorders (such as amyotrophic lateral sclerosis) than are neurological cases in the lowest margin IRFs (data not shown).

- The Commission has found that high-margin IRFs have patients who are, on average, less severely ill in the acute care hospital than patients admitted to low-margin IRFs. Once admitted to and assessed by the IRF, however, the average patient profile changes, with patients treated in high-margin IRFs appearing to be more disabled than those in low-margin IRFs. This finding suggests the possibility that assessment and coding practices may contribute to greater revenues in some IRFs (data not shown).

Chart 8-15. Low standardized costs led to high margins for both hospital-based and freestanding IRFs, 2015

Characteristic	Lowest cost quartile	Highest cost quartile
Median cost per discharge		
All	$11,124	$19,443
Hospital based	11,756	19,434
Freestanding	10,610	19,881
Median Medicare margin		
All	28.5%	–22.0%
Hospital based	22.1	–22.0
Freestanding	32.0	–25.7
Median		
Number of beds	50	17
Occupancy rate	74%	49%
Case-mix index	1.30	1.23
Share of facilities in the quartile that are:		
Hospital based	36%	94%
Freestanding	64	6
Nonprofit	29	59
For profit	67	23
Government	4	18
Urban	93	71
Rural	7	29

Note: IRF (inpatient rehabilitation facility). Cost per discharge is standardized for differences in wages across geographic areas, differences in case mix across providers, and differences across providers in the prevalence of high-cost outliers, short-stay outliers, and transfer cases.

Source: MedPAC analysis of Medicare cost report and Medicare Provider Analysis and Review data from CMS.

- IRFs with the lowest standardized costs (those in the lowest cost quartile) had a median standardized cost per discharge that was 43 percent less than that of the IRFs with the highest standardized costs (those in the highest cost quartile).
- IRFs with the lowest costs tended to be larger: The median number of beds was 50 compared with 17 in the highest cost quartile. In addition, IRFs with the lowest costs had a higher median occupancy rate (74 percent vs. 49 percent, respectively). These results suggest that low-cost IRFs benefit from economies of scale.
- Low-cost IRFs were disproportionately freestanding and for profit. Still, 36 percent of IRFs in the lowest cost quartile were hospital based and 29 percent were nonprofit. By contrast, in the highest cost quartile, 94 percent were hospital based and 59 percent were nonprofit.

Chart 8-16. The top 25 MS–LTC–DRGs made up two-thirds of LTCH discharges in 2015

MS–LTC–DRG	Description	Discharges	Percentage
189	Pulmonary edema and respiratory failure	16,685	12.7%
207	Respiratory system diagnosis with ventilator support 96+ hours	15,024	11.5
871	Septicemia without ventilator support 96+ hours with MCC	8,946	6.8
177	Respiratory infections and inflammations with MCC	3,462	2.6
592	Skin ulcers with MCC	3,458	2.6
539	Osteomyelitis with MCC	3,064	2.3
208	Respiratory system diagnosis with ventilator support <96 hours	2,801	2.1
682	Renal failure with MCC	2,612	2.0
949	Aftercare with CC/MCC	2,540	1.9
919	Complications of treatment with MCC	2,265	1.7
559	Aftercare, musculoskeletal system and connective tissue with MCC	2,083	1.6
314	Other circulatory system diagnoses with MCC	1,940	1.5
870	Septicemia with ventilator support 96+ hours	1,852	1.4
4	Tracheostomy with ventilator support 96+ hours or primary diagnosis except face, mouth, and neck without major OR	1,828	1.4
862	Postoperative and post-traumatic infections with MCC	1,823	1.4
166	Other respiratory system OR procedures with MCC	1,758	1.3
190	Chronic obstructive pulmonary disease with MCC	1,723	1.3
853	Infectious and parasitic diseases with OR procedure with MCC	1,694	1.3
193	Simple pneumonia and pleurisy with MCC	1,690	1.3
291	Heart failure and shock with MCC	1,641	1.3
570	Skin debridement with MCC	1,634	1.2
638	Diabetes with CC	1,598	1.2
981	Extensive OR procedure unrelated to principal diagnosis with MCC	1,576	1.2
560	Aftercare, musculoskeletal system and connective tissue with CC	1,421	1.1
602	Cellulitis with MCC	1,376	1.0
	Top 25 MS–LTC–DRGs	86,494	66.0
	Total	131,134	100.0

Note: MS–LTC–DRG (Medicare severity long-term care diagnosis related group), LTCH (long-term care hospital), MCC (major complication or comorbidity), CC (complication or comorbidity), OR (operating room). MS–LTC–DRGs are the case-mix system for LTCHs. Components may not sum to totals due to rounding.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- Cases in LTCHs are concentrated in a relatively small number of MS–LTC–DRGs. In 2015, the top 25 MS–LTC–DRGs accounted for 66 percent of all cases.
- The most frequent diagnosis in LTCHs in 2015 was pulmonary edema and respiratory failure. Nine of the top 25 diagnoses were respiratory conditions or involved prolonged mechanical ventilation.

Chart 8-17. The number of Medicare LTCH cases and users continued to decrease between 2014 and 2015

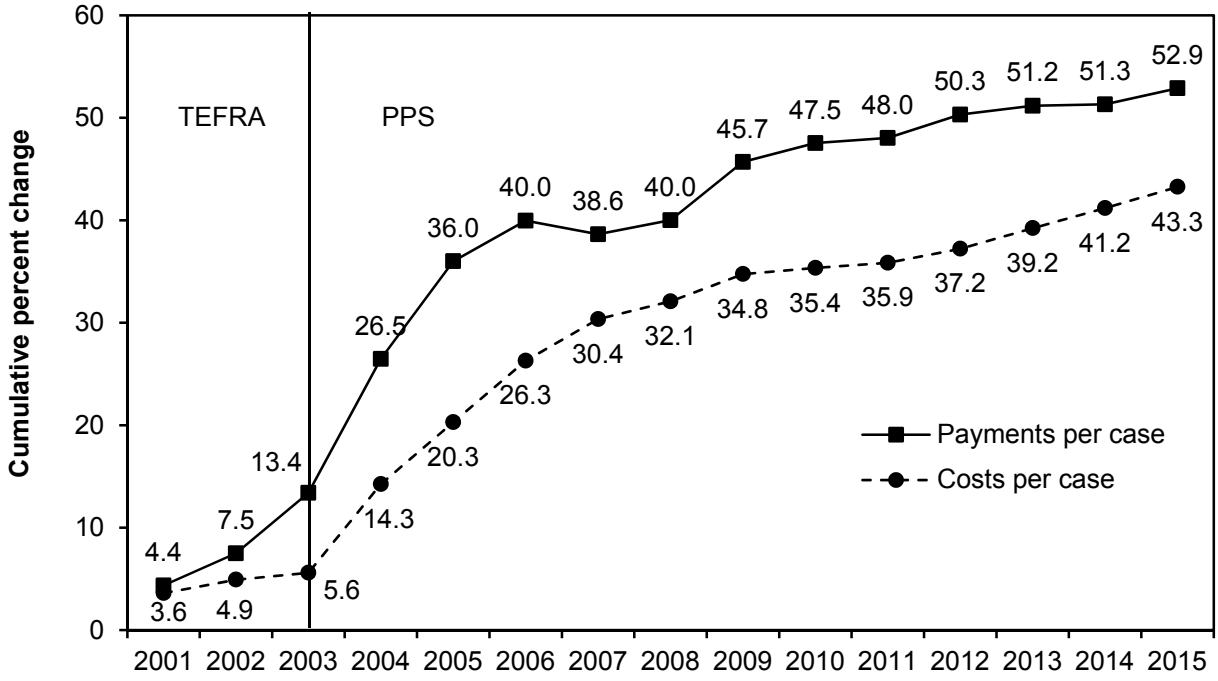
						Average annual change		
	2011	2012	2013	2014	2015	2011–2013	2013–2014	2014–2015
Cases	139,715	140,463	137,827	133,984	131,134	–0.7%	–2.8%	–2.1%
Cases per 10,000 FFS beneficiaries	38.3	37.7	36.6	35.7	34.7	–2.2	–2.6	–2.0
Spending per FFS beneficiary	$147.9	$148.8	$146.7	$142.7	$141.4	–0.4	–2.8	–0.2
Payment per case	$38,664	$39,493	$40,070	$40,015	$40,718	1.8	–0.1	1.8
Length of stay (in days)	26.3	26.2	26.5	26.3	26.6	0.4	–0.7	1.0
Users	122,838	123,652	121,532	118,288	116,088	–0.5	–2.7	–1.9

Note: LTCH (long-term care hospitals), FFS (fee-for-service). Yearly figures presented in the table are rounded, but the average annual changes were calculated using unrounded data.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- Controlling for the number of FFS beneficiaries, the number of LTCH cases declined 2.0 percent between 2014 and 2015.
- Between 2014 and 2015, the number of beneficiaries who had LTCH stays (“users”) decreased by 1.9 percent.

Chart 8-18. LTCHs' per case costs increased more than payments in 2015



Note: LTCH (long-term care hospital), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system). Percentage changes are calculated based on consistent two-year cohorts of LTCHs.

Source: MedPAC analysis of Medicare cost report data from CMS.

- In the first years of the PPS, costs per case increased rapidly, following a surge in payments per case. Between 2005 and 2007, growth in cost per case slowed considerably because regulatory changes to Medicare's payment policies for LTCHs slowed growth in payment per case to an average of 1.3 percent per year.

- For most of the past decade, LTCHs held cost growth below the rate of market basket increases, likely because of ongoing concerns about possible changes to Medicare's payment policies for LTCH services. The slowest growth in average cost per case occurred between 2009 and 2011, when the average cost per case increased less than 1 percent per year.

- Between 2012 and 2015, the average cost per case increased by about 2 percent per year, including 2.1 percent between 2014 and 2015.

Chart 8-19. The aggregate average LTCH Medicare margin fell each year since 2013

Type of LTCH	Share of discharges	Medicare margin					
		2010	2011	2012	2013	2014	2015
All	100%	6.7%	6.9%	7.6%	6.8%	5.1%	4.6%
Urban	95	7.0	7.1	7.7	7.0	5.1	4.6*
Rural	5	0.0	2.7	3.2	2.5	4.1	2.8*
Nonprofit	13	–0.3	0.3	–0.3	–1.1	–2.4	–6.0
For profit	84	8.3	8.4	9.2	8.6	6.9	6.4
Government	2	N/A	N/A	N/A	N/A	N/A	N/A

Note: LTCH (long-term care hospital), N/A (not applicable). Margins for government-owned providers are not shown. They operate in a different context from other providers, so their margins are not necessarily comparable. Totals may not sum to 100 percent due to rounding.
*CMS adopted new core-based statistical area (CBSA) codes for LTCHs beginning in fiscal year 2015; this change reclassified several facilities as urban that had previously been classified as rural, and therefore the margin across categories of urban and rural facilities between 2014 and 2015 should not be compared. Applying the old CBSA definition to 2015, we calculated both an urban margin and a rural margin equal to 4.6 percent in 2015. The decrease in the rural margin shown above is solely attributed to the change in facilities classified as urban and rural.

Source: MedPAC analysis of cost report data from CMS.

- After implementation of the prospective payment system on October 1, 2002, LTCHs' Medicare margins increased rapidly for all LTCH provider types, climbing to 11.9 percent in 2005 (data not shown). Margins then fell as growth in payments per case leveled off.

- From 2009 (data not shown) through 2012, LTCH margins climbed as providers consistently held cost growth below that of payment growth.

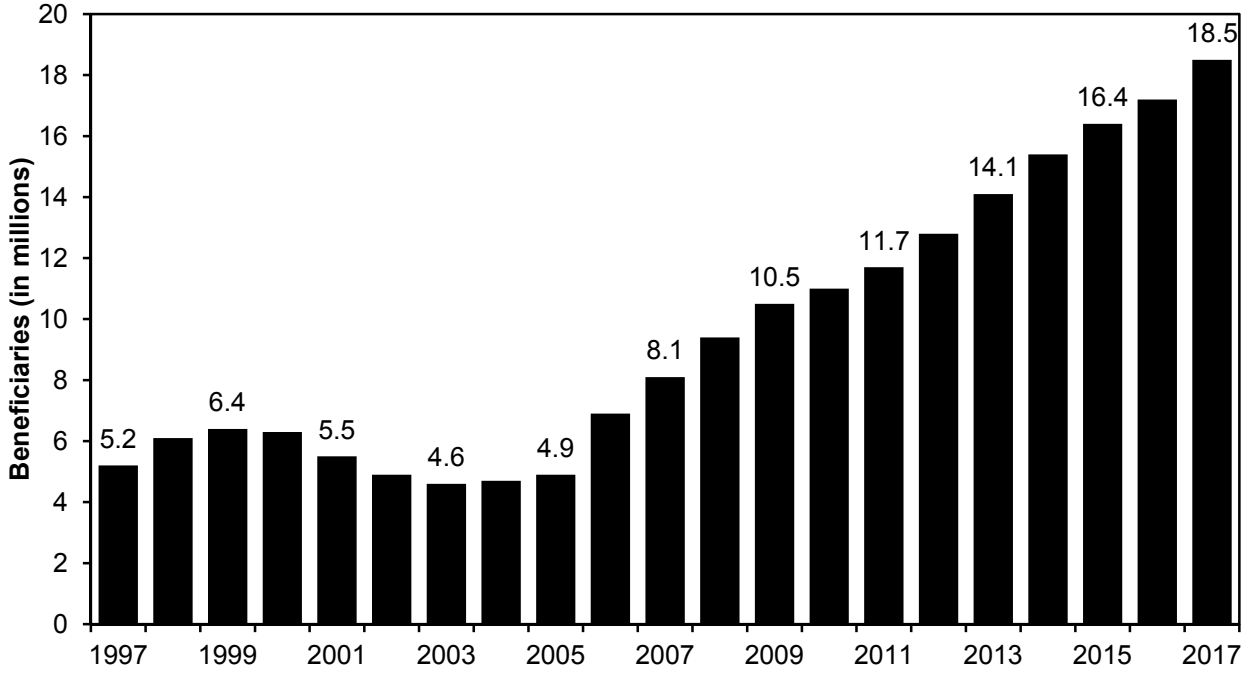
- In 2013, the aggregate LTCH margin fell from 7.6 percent (in 2012) to 6.8 percent, primarily because of the first year of a three-year phase-in of the downward adjustment for budget neutrality and the effect of sequestration beginning on April 1, 2013. The aggregate LTCH margin fell further to 5.1 percent in 2014 and 4.6 percent in 2015.

- Financial performance in 2015 varied across LTCHs. The aggregate Medicare margin for for-profit LTCHs (which accounted for 84 percent of all Medicare discharges from LTCHs) decreased from 6.9 percent in 2014 to 6.4 percent in 2015. The aggregate margin for nonprofit LTCHs fell from –2.4 percent in 2014 to –6.0 percent in 2015. These declines were due to cost growth that exceeded growth in payments per case.

SECTION 9

Medicare Advantage

Chart 9-1. Enrollment in MA plans, 1997–2017



Note: MA (Medicare Advantage).

Source: Medicare managed care contract reports and monthly summary reports, CMS.

- Medicare enrollment in MA plans that are paid on an at-risk capitated basis reached 18.5 million enrollees (32 percent of all Medicare beneficiaries) in 2017. Enrollment rose rapidly throughout the 1990s, peaking at 6.4 million enrollees in 1999, but then declined to a low of 4.6 million enrollees in 2003. MA enrollment has increased steadily since 2003. The Medicare program paid MA plans about $190 billion in 2016 to cover Part A and Part B services for MA enrollees (data not shown).

Chart 9-2. MA plans available to almost all Medicare beneficiaries

	CCPs					
	HMO or local PPO	Regional PPO	Any CCP	PFFS	Any MA plan	Average plan offerings per county
2009	88%	91%	99%	100%	100%	34
2010	91	86	99	100	100	21
2011	92	86	99	63	100	12
2012	93	76	99	60	100	12
2013	95	71	99	59	100	12
2014	95	71	99	53	100	10
2015	95	70	98	47	99	9
2016	96	73	99	47	99	9
2017	95	74	98	45	99	10

Note: MA (Medicare Advantage), CCP (coordinated care plan), HMO (health maintenance organization), PPO (preferred provider organization), PFFS (private fee-for-service). These data do not include plans that have restricted enrollment or are not paid based on the MA plan bidding process (special needs plans, cost plans, employer-only plans, and certain demonstration plans).

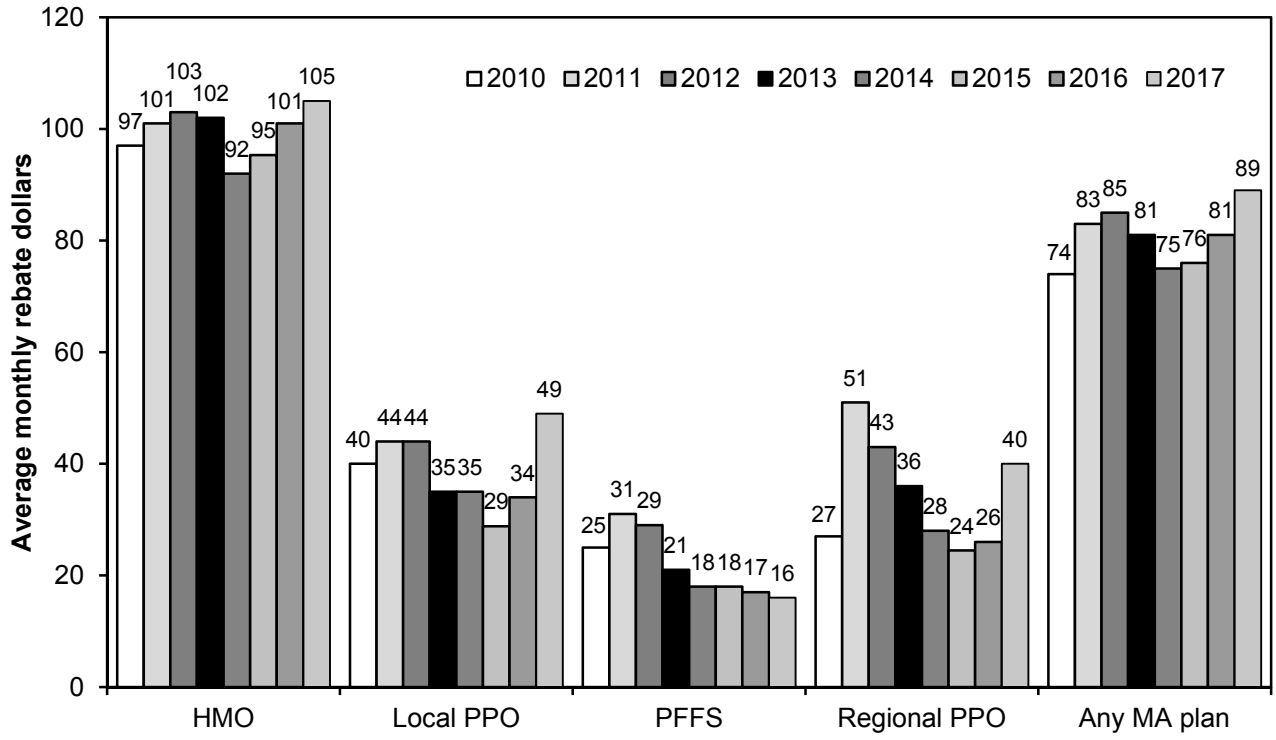
Source: MedPAC analysis of plan bid data from CMS.

- There are four types of MA plans, three of which are CCPs. Local CCPs include HMOs and local PPOs, which have comprehensive provider networks and limit or discourage use of out-of-network providers. Local CCPs may choose which individual counties to serve. Regional PPOs cover entire state-based regions and have networks that may be looser than those required of local PPOs. Since 2011, PFFS plans (but not CCPs) are required to have networks in areas with two or more CCPs. In other areas, PFFS plans are not required to have networks, and enrollees are free to use any Medicare provider.

- Local CCPs are available to 95 percent of Medicare beneficiaries in 2017, and regional PPOs are available to 74 percent of beneficiaries; the availability of both plan types is the same or higher than in 2013. Since 2006, almost all Medicare beneficiaries have had MA plans available; 99 percent had an MA plan available in 2017.

- The number of plans from which beneficiaries may choose in 2017 is higher than last year. In 2017, beneficiaries can choose from an average of 10 plans operating in their counties (this figure is the simple average of plans per county; if counties were enrollee weighted, the average would be 18). This availability has decreased from the peak in 2009, reflecting network requirements for PFFS plans and CMS's 2010 effort to reduce the number of duplicative plans and plans with low enrollment. The decrease in plan choices from 2010 to 2017 was due to the reduction in the number of PFFS plans.

Chart 9-3. Average monthly rebate dollars, by plan type, 2010–2017



Note: HMO (health maintenance organization), PPO (preferred provider organization), PFFS (private fee-for-service), MA (Medicare Advantage). Employer group waiver and special needs plans are excluded.

Source: MedPAC analysis of bid and plan finder data from CMS.

- Perhaps the best summary measure of plan benefit value is the average rebate, which plans receive to provide additional benefits. Plans are awarded rebates for bidding under their benchmarks. The rebates must be returned to the plan members in the form of extra benefits. The extra benefits may be supplemental benefits, lower cost sharing, or lower premiums. The average rebate for all non-employer, non-SNP plans rose to a high of $89 per month for 2017.

- HMOs have had, by far, the highest rebates because they tend to bid lower than other types of plans. Average rebates for HMOs have risen sharply over the past two years and are at a high of $105 per month for 2017.

- For both local and regional PPOs, the rebates rose from 2010 to 2011, declined through 2015, and rose to levels higher than 2010 in 2017.

- Rebates for PFFS plans have declined steadily since 2011.

Chart 9-4. Changes in enrollment vary among major plan types

Plan type	Total enrollees (in thousands) February 2013	February 2014	February 2015	February 2016	February 2017	Percent change 2016–2017
Local CCPs	12,580	13,809	14,824	15,588	16,920	9%
Regional PPOs	1,060	1,221	1,237	1,315	1,353	3
PFFS	417	309	260	238	190	–20

Note: CCP (coordinated care plan), PPO (preferred provider organization), PFFS (private fee-for-service). Local CCPs include health maintenance organizations and local PPOs.

Source: CMS health plan monthly summary reports.

- Enrollment in local CCPs grew by 9 percent over the past year. Enrollment in regional PPOs grew by 3 percent, while enrollment in PFFS plans continued to decline. Combined enrollment in the three types of plans grew by 8 percent from February 2016 to February 2017.

Chart 9-5. MA and cost plan enrollment by state and type of plan, 2017

State or territory	Medicare eligibles (in thousands)	Distribution (in percent) of enrollees by plan type					
		HMO	Local PPO	Regional PPO	PFFS	Cost	Total
U.S. total	57,481	21%	9%	2%	0%	1%	33%
Alabama	1,001	16	19	1	0	0	36
Alaska	88	0	1	0	0	0	1
Arizona	1,196	35	3	1	0	0	39
Arkansas	615	9	4	6	3	0	22
California	5,904	38	2	0	0	0	40
Colorado	842	30	4	0	0	3	37
Connecticut	649	24	3	1	0	0	28
Delaware	190	6	5	0	0	0	11
Florida	4,229	29	6	8	0	0	43
Georgia	1,609	10	16	8	0	0	35
Hawaii	256	18	26	1	0	0	46
Idaho	300	18	13	0	0	0	32
Illinois	2,142	10	11	0	0	0	22
Indiana	1,194	7	15	4	0	0	27
Iowa	595	6	11	0	0	2	18
Kansas	506	6	8	0	1	0	16
Kentucky	891	6	16	6	0	1	29
Louisiana	828	28	3	2	0	0	33
Maine	319	17	10	0	1	0	28
Maryland	976	3	4	0	0	4	11
Massachusetts	1,263	15	5	1	0	0	21
Michigan	1,968	13	20	1	0	0	34
Minnesota	961	13	5	0	0	40	57
Mississippi	580	9	3	5	0	0	17
Missouri	1,179	20	7	4	1	0	32
Montana	213	2	18	0	1	0	21
Nebraska	327	8	3	0	2	1	13
Nevada	482	31	5	0	0	0	36
New Hampshire	277	5	3	1	1	0	10
New Jersey	1,545	11	10	0	0	0	21
New Mexico	392	22	11	0	0	0	33
New York	3,453	27	7	4	1	0	38
North Carolina	1,854	14	16	2	0	0	32
North Dakota	123	0	2	0	0	16	18
Ohio	2,233	20	13	2	0	0	36
Oklahoma	706	12	5	1	1	0	18
Oregon	798	29	16	0	0	0	45
Pennsylvania	2,619	25	15	0	0	0	41
Puerto Rico	775	72	3	0	0	0	75
Rhode Island	210	34	2	1	0	0	37
South Carolina	991	7	5	12	0	0	25
South Dakota	163	0	5	0	0	16	21
Tennessee	1,284	24	11	1	0	0	37
Texas	3,834	19	9	4	0	1	34
Utah	365	29	6	0	0	0	36
Vermont	138	2	2	4	1	0	9
Virgin Islands	20	0	1	0	0	0	1
Virginia	1,420	7	5	2	2	2	17
Washington	1,258	26	4	0	0	0	31
Washington, DC	91	2	7	0	0	7	15
West Virginia	428	3	21	1	1	4	30
Wisconsin	1,100	20	12	1	1	5	39
Wyoming	100	0	1	0	2	1	4

Note: MA (Medicare Advantage), HMO (health maintenance organization), PPO (preferred provider organization), PFFS (private fee-for-service). Cost plans are not MA plans; they submit cost reports rather than bids to CMS. Component percentages may not sum to totals due to rounding.

Source: CMS enrollment and population data February 2017.

Chart 9-6. MA plan benchmarks, bids, and Medicare program payments relative to FFS spending, 2017

	All plans	HMOs	Local PPOs	Regional PPOs	PFFS
Benchmarks/FFS	106%	106%	111%	101%	110%
Bids/FFS	90	88	101	94	108
Payments/FFS	100	99	107	98	109

Note: MA (Medicare Advantage), FFS (fee-for-service), HMO (health maintenance organization), PPO (preferred provider organization), PFFS (private fee-for-service).

Source: MedPAC analysis of plan bid data from CMS October 2016.

- Since 2006, plan bids have partly determined the Medicare payments they receive. Plans bid to offer Part A and Part B coverage to Medicare beneficiaries (Part D coverage is bid separately). The bid includes plan administrative cost and profit. CMS bases the Medicare payment for a private plan on the relationship between its bid and its applicable benchmark.

- The benchmark is an administratively determined bidding target. Benchmarks for each county are set by means of a statutory formula based on percentages (ranging from 95 percent to 115 percent) of each county's per capita Medicare spending.

- If a plan's bid is above the benchmark, then the plan receives the benchmark as payment from Medicare, and enrollees have to pay an additional premium that equals the difference. If a plan's bid is below the benchmark, the plan receives its bid plus a "rebate," defined by law as a percentage of the difference between the plan's bid and its benchmark. The percentage is based on the plan's quality rating, and it ranges from 50 percent to 70 percent. The plan must then return the rebate to its enrollees in the form of supplemental benefits, lower cost sharing, or lower premiums.

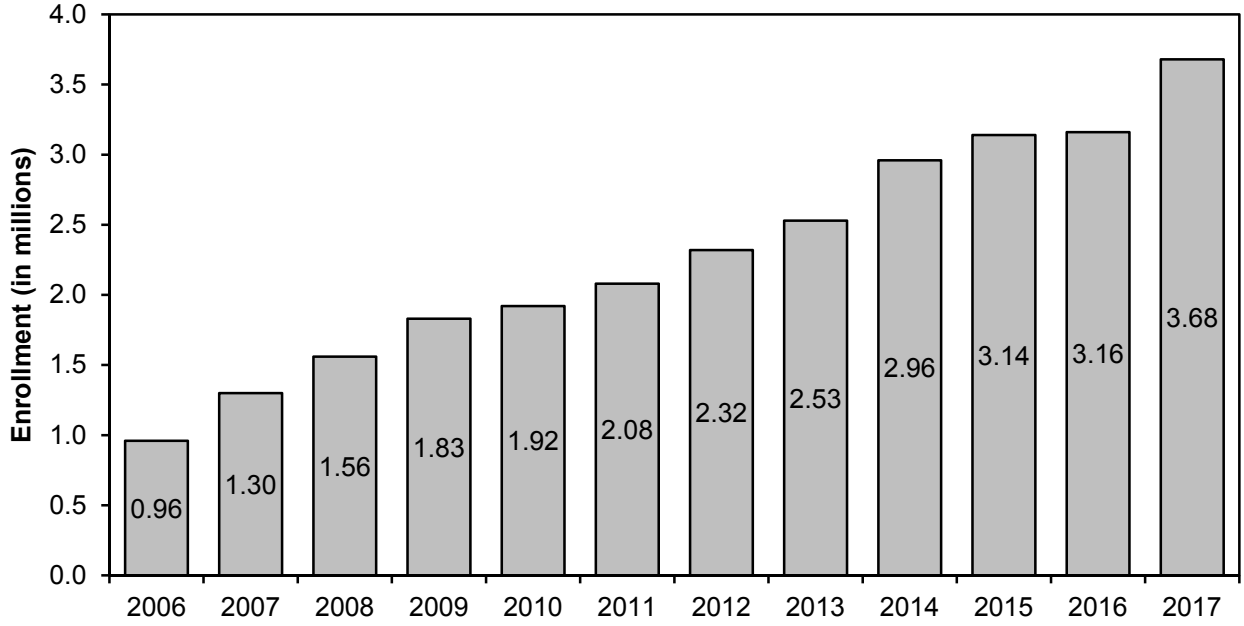
- We estimate that MA benchmarks average 106 percent of FFS spending when weighted by MA enrollment. The ratio varies by plan type because different types of plans tend to draw enrollment from different types of geographical areas.

- Plans' enrollment-weighted bids (excluding employer plans, which no longer submit bids) average 90 percent of FFS spending in 2017. We estimate that HMOs bid an average of 88 percent of FFS spending, while bids from other plan types average at least 94 percent of FFS spending. These numbers suggest that HMOs can provide the same services for less than FFS in the areas where they bid.

- We project that 2017 MA payments will be 100 percent of FFS spending. This figure does not include employer plans and does not account for risk coding differences between FFS and MA plans that have not been resolved through the coding intensity factor.

- The ratio of payments relative to FFS spending varies by the type of MA plan. HMO and regional PPO payments are estimated to be 99 and 98 percent of FFS, respectively, while payments to PFFS and local PPOs average 109 percent and 107 percent of FFS, respectively.

Chart 9-7. Enrollment in employer group MA plans, 2006–2017



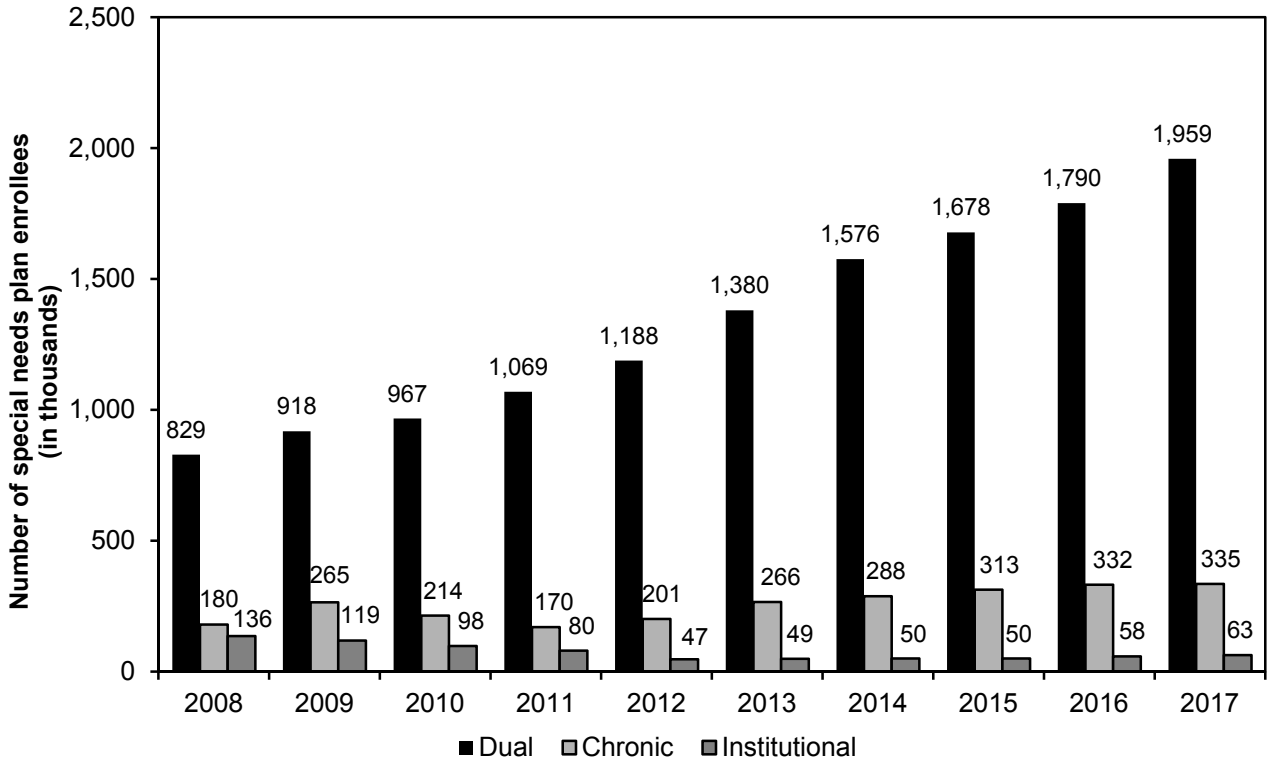
Note: MA (Medicare Advantage). Enrollment numbers are as of May for 2006, November for 2007, and February for 2008 through 2017.

Source: CMS enrollment data.

- While most MA plans are available to any Medicare beneficiary residing in a given area, some MA plans are available only to retirees whose Medicare coverage is supplemented by their former employer or union. These plans are called employer group plans. Such plans are usually offered through insurers and are marketed to groups formed by employers or unions rather than to individual beneficiaries.

- As of February 2017, about 3.7 million enrollees were in employer group plans, or about 20 percent of all MA enrollees. Employer plan enrollment grew by 16 percent from 2016 and has doubled since 2009.

Chart 9-8. Number of special needs plan enrollees, 2008–2017



Source: CMS special needs plans comprehensive reports, April 2008–2017.

- The Congress created special needs plans (SNPs) as a new Medicare Advantage (MA) plan type in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 to provide a common framework for the existing plans serving special needs beneficiaries and to expand beneficiaries' access to and choice among MA plans.

- SNPs were originally authorized for five years. SNP authority was extended several times, often subject to new requirements. Absent further congressional action, SNP authority will expire at the end of 2018.

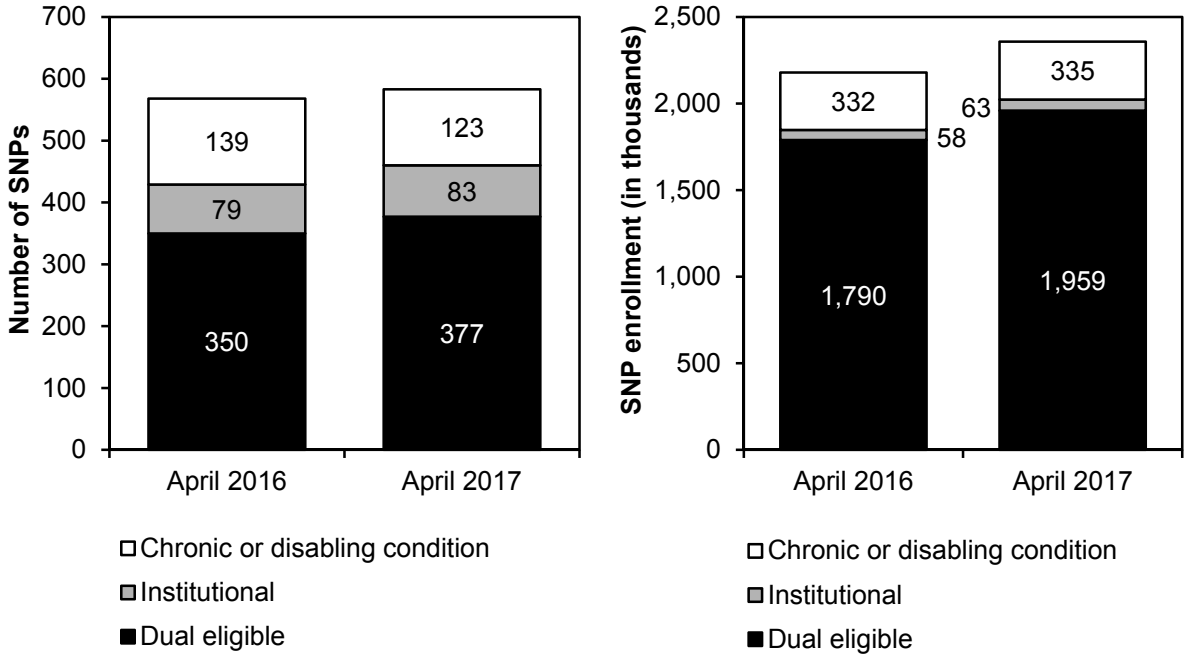
- CMS approves three types of SNPs: dual-eligible SNPs enroll only beneficiaries dually entitled to Medicare and Medicaid, chronic condition SNPs enroll only beneficiaries who have certain chronic or disabling conditions, and institutional SNPs enroll only beneficiaries who reside in institutions or are nursing-home certified.

- Enrollment in dual-eligible SNPs has grown continuously and is about 2 million in 2017.

- Enrollment in chronic condition SNPs has fluctuated as plan requirements have changed, but has risen annually since 2011.

- Enrollment in institutional SNPs declined steadily through 2012 but has held steady over the last few years and increased in 2016 and 2017.

Chart 9-9. Number of SNPs and SNP enrollment rose from 2016 to 2017



Note: SNP (special needs plan).

Source: CMS special needs plans comprehensive reports, April 2016 and 2017.

- The number of SNPs increased by 3 percent from April 2016 to April 2017, and the number of SNP enrollees increased by 8 percent. All three types of SNPs showed increases in enrollment. The number of institutional and dual-eligible SNPs increased, while chronic disease SNPs decreased by about 9 percent. The direction of these changes is the same as it was last year; enrollment in all three types increased and the number of dual SNPs and institutional SNPs increased, from 2016 to 2017, while the number of chronic condition SNPs decreased.

- In 2017, most SNPs (65 percent) are for dual-eligible beneficiaries, while 21 percent are for beneficiaries with chronic conditions and 14 percent are for beneficiaries who reside in institutions (or reside in the community but have a similar level of need).

- Enrollment in SNPs has grown from 0.9 million in May 2007 (not shown) to almost 2.4 million in April 2017.

- The availability of SNPs varies by type of special needs population served (data not shown). In 2017, 86 percent of beneficiaries reside in areas where SNPs serve dual-eligible beneficiaries (up from 83 percent in 2016), 52 percent live where SNPs serve institutionalized beneficiaries (up from 50 percent in 2016), and 44 percent live where SNPs serve beneficiaries with chronic conditions (down from 54 percent).

Chart 9-10. Twenty most common condition categories among MA beneficiaries, as defined in the CMS–HCC model, 2015

Conditions (defined by HCC)	Percent of beneficiaries with listed condition	Percent of beneficiaries with listed condition and no others
Vascular disease	17.7%	2.1%
Diabetes with chronic complications	15.2	2.6
COPD	14.4	1.9
Diabetes without complications	13.0	4.5
CHF	11.5	0.5
Specified heart arrhythmias	11.4	1.3
Major depressive, bipolar, and paranoid disorders	9.6	1.7
Morbid obesity	7.0	0.8
Rheumatoid arthritis and inflammatory connective tissue disease	5.8	1.0
Breast, prostate, colorectal, and other cancers and tumors	5.2	1.4
Coagulation defects and other specified hematological disorders	4.1	0.4
Angina pectoris	3.7	0.3
Acute renal failure	3.1	0.1
Other significant endocrine and metabolic disorders	3.0	0.3
Ischemic or unspecified stroke	2.7	0.2
Drug/alcohol dependence	2.7	0.2
Seizure disorders and convulsions	2.6	0.3
Cardio-respiratory failure and shock	2.3	0.0
Chronic ulcer of skin, except pressure	1.8	0.1
Colorectal, bladder, and other cancers	1.7	0.3

Note: MA (Medicare Advantage), CMS–HCC (CMS–hierarchical condition category), COPD (chronic obstructive pulmonary disease), CHF (congestive heart failure).

Source: MedPAC analysis of Medicare data files from Acumen LLC.

- CMS uses the CMS–HCC model to risk adjust capitated payments to MA plans so that payments better reflect the clinical needs of MA enrollees given the number and severity of their clinical conditions. The CMS–HCC model uses beneficiaries' conditions, which are collected into HCCs, to adjust the capitated payments.
- Vascular disease is the most common HCC, but two diabetes HCCs combined are more common than vascular disease. Over 28 percent of MA enrollees are in one of those two diabetes HCCs.

Chart 9-11. Medicare private plan enrollment patterns, by age and Medicare–Medicaid dual-eligible status, December 2015

	As percent of Medicare population	Percent of category in FFS	Percent of category in plans
All beneficiaries	**100%**	**69%**	**31%**
Aged (65 or older)	84	68	32
Under 65	16	74	26
Non–dual eligible	**82**	**69**	**31**
Aged (65 or older)	73	69	31
Under 65	9	74	26
Dual eligible	**18**	**68**	**32**
Aged (65 or older)	10	63	37
Under 65	8	75	25
Dual-eligible beneficiaries by category (all ages)			
Full dual eligibility	**13**	**72**	**28**
Beneficiaries with partial dual eligibility			
QMB only	3	63	37
SLMB only	2	56	44
QI	1	53	47

Note: FFS (fee-for-service), QMB (qualified Medicare beneficiary), SLMB (specified low-income beneficiary), QI (qualified individual). Dual-eligible beneficiaries are eligible for Medicare and Medicaid. See accompanying text for an explanation of the categories of dual-eligible beneficiaries. "Plans" include Medicare Advantage plans as well as cost-reimbursed plans. Data exclude Puerto Rico because of the inability to determine specific dual-eligible categories. As of December 2015, Puerto Rico had 565,000 Medicare Advantage enrollees. Dual-eligible special needs plans in Puerto Rico had 279,000 enrollees in December 2015.

Source: MedPAC analysis of 2015 denominator and common Medicare environment files and CMS monthly MA reports.

- Recent levels of Medicare plan enrollment among the dually eligible represent a significant increase over earlier years. In 2004, only 1 percent of dual-eligible beneficiaries were enrolled in plans, compared with 16 percent of non-dual-eligible beneficiaries. At the end of 2012, 23 percent of dual-eligible beneficiaries were in Medicare private plans, compared with 32 percent at the end of 2015.

- A substantial share of dual-eligible beneficiaries (42 percent (not shown in table)) are under the age of 65 and entitled to Medicare on the basis of disability or end-stage renal disease. Beneficiaries under age 65 are less likely than aged beneficiaries to enroll in Medicare private plans (26 percent vs. 32 percent).

- Dual-eligible beneficiaries who have full dual eligibility—that is, those who have coverage for their Medicare out-of-pocket costs (premiums and cost sharing) as well as coverage for services such as long-term care services and supports—are less likely to enroll in private Medicare plans than beneficiaries with "partial" dual eligibility. Full dual-eligibility categories consist of beneficiaries with coverage through state Medicaid programs as well as certain QMBs and SLMBs who also have Medicaid coverage for services. The latter two categories are referred to as QMB-Plus and SLMB-Plus beneficiaries. Beneficiaries with partial dual eligibility have coverage for Medicare premiums (through the QI or SLMB program) or premiums and Medicare cost sharing, in the case of the QMB program. SLMB-only and QI beneficiaries have higher rates of plan enrollment (44 percent and 47 percent, respectively) than any other category shown in this chart, and the rates are higher than the average rate (31 percent) across all Medicare beneficiaries.

Chart 9-12. Distribution of MA plans and enrollment by CMS overall star ratings, March 2017

Plans and enrollment	Year 2017 star ratings: Number of stars						
	5	4.5	4	3.5	3	2.5	Any star rating
All plan types							
Number of plans	14	67	97	107	67	11	363
As share of rated plan enrollees	9%	23%	38%	21%	8%	1%	100%
HMOs							
Number of plans	13	55	66	74	55	11	274
As share of HMO enrollees	14%	30%	31%	18%	6%	1%	100%
Local PPOs							
Number of plans	1	12	29	22	10	0	74
As share of local PPO enrollees	<1%	14%	60%	25%	2%	N/A	100%
Regional PPOs							
Number of plans	0	0	1	5	2	0	8
As share of regional PPO enrollees	N/A	N/A	33%	27%	40%	N/A	100%
PFFS							
Number of plans	0	0	0	1	0	0	1
As share of PFFS enrollees	N/A	N/A	N/A	100%	N/A	N/A	100%

Note: MA (Medicare Advantage), HMO (health maintenance organization), PPO (preferred provider organization), N/A (not applicable), PFFS (private fee-for-service). For purposes of this table and the accompanying text, a plan is an MA contract, which can consist of several options with different benefit packages that are also referred to as "plans." Cost-reimbursed HMO plans are included in the data. No plan had an overall star rating below 2.5. Numbers may not sum to 100 percent due to rounding; enrollment totals are rounded results of the sum of unrounded numbers.

Source: MedPAC analysis of CMS star ratings and enrollment data, 2016.

- The star rating system is a composite measure of clinical processes and outcomes, patient experience measures, and measures of a plan's administrative performance. The overall star rating measures performance on Part C measures and Part D measures.

- The average overall star rating across all plans is 3.75, or 4.01 on an enrollment-weighted basis. There are 107 plans, with nearly 244,000 enrollees, that do not have a star rating because they are too new to be rated or there is insufficient information on which to base a rating (data not shown in chart). In addition, the 58 Medicare–Medicaid plans participating in the financial alignment demonstration, with nearly 400,000 enrollees, are not included in the star rating system.

(Chart continued next page)

Chart 9-12. Distribution of MA plans and enrollment by CMS overall star ratings, March 2017 (continued)

- Under the statutory provisions that introduced quality bonus payments beginning in 2012, plans with ratings of 4 stars or more receive bonus payments in the form of an increase in their benchmarks. Plan star ratings also determine the level of rebate dollars, with higher rated plans able to use a higher proportion of the difference between the plan bid and benchmark amounts to provide extra benefits to enrollees.

- Plans with a 5-star rating are able to enroll beneficiaries outside of the annual election period, on a year-round basis. The 5-star status of such plans is highlighted in the Medicare.gov website's Medicare Plan Finder. The year 2017 is the first year in which a plan type other than HMO has received a 5-star rating, as one local PPO is at 5 stars. Plans with ratings below 3 stars have an indicator of their low-performing status in the Medicare Plan Finder.

- The criteria for determining plan star ratings change from year to year. Therefore, plan ratings across years are not entirely comparable. Beginning in 2012, a weighting approach was used that assigns greater weight to outcome measures (weighted 3) and patient experience and access measures (weighted 1.5), with less weight assigned to process and administrative measures (weighted 1). In 2017, excluding two composite improvement measures (each weighted 5), 60 percent of the weight of measures reflects Part C and Part D clinical quality measures (outcomes as well as clinical process measures); 20 percent of the weight represents patient experience measures; and the remaining 20 percent are administrative measures.

- The two year-over-year composite improvement measures—one each for Part C and Part D—account for 13 percent of the total weight for determining a Medicare Advantage Prescription Drug plan's overall star rating in 2017. For high-performing plans that have little room for improvement in their measures, the plan's overall star rating can be computed without including the improvement measure.

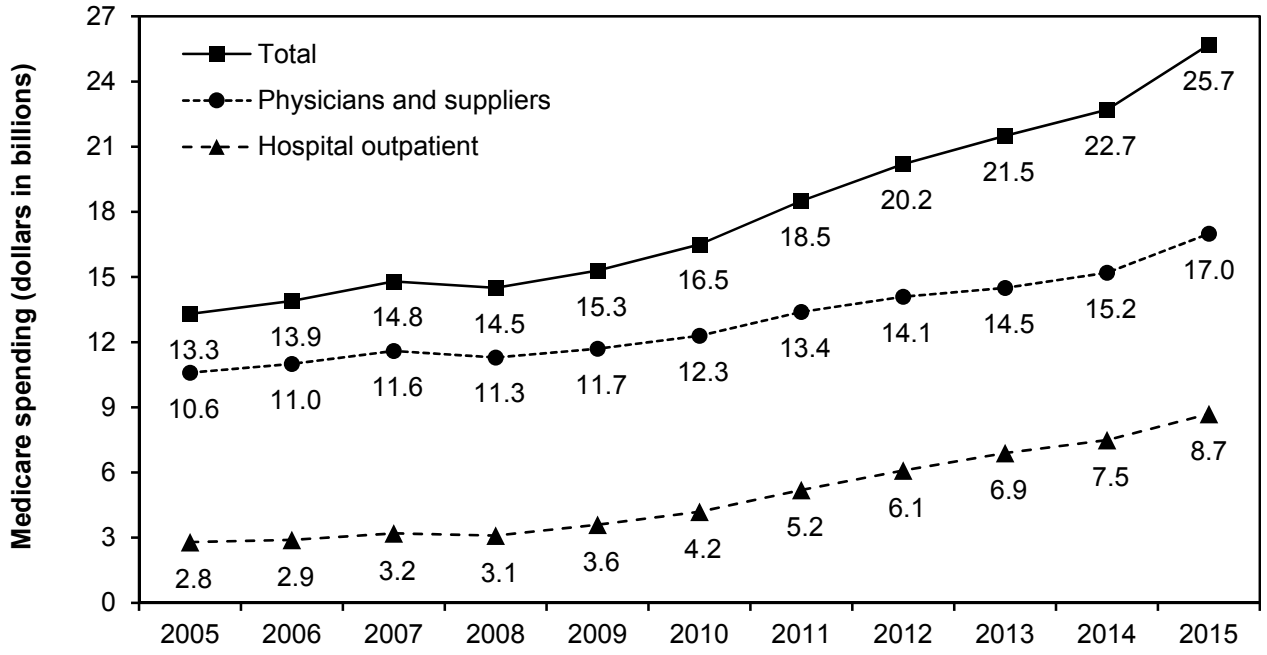
- Another factor that can increase a plan's overall star rating is a reward factor that CMS adds to the overall star rating for plans that "have both high and stable relative performance."

- An organization can consolidate plans that previously had separate ratings into combined plans with a single rating. The star rating in such a case is the star rating of the surviving plan, regardless of the star ratings of the other plans being combined. This practice affects the enrollment shares by star category shown in this table and affects the ability to compare current year data with data for prior years. (See the Commission's March 2017 report to the Congress for additional information about this practice.)

SECTION 10

Prescription drugs

Chart 10-1. Medicare spending for Part B drugs furnished by physicians, suppliers, and hospital outpatient departments



Note: Data include Part B–covered drugs furnished by physicians, suppliers, and hospital outpatient departments and exclude those furnished by critical access hospitals, Maryland hospitals, and dialysis facilities. "Medicare spending" includes program payments and beneficiary cost sharing. Data reflect all Part B drugs whether they are paid based on the average sales price plus 6 percent or another payment formula. Data exclude blood and blood products (other than clotting factor). Components may not sum to total due to rounding.

Source: MedPAC and Acumen LLC analysis of Medicare claims data.

- The Medicare program and beneficiaries spent about $25.7 billion on Part B drugs furnished by physicians, suppliers, and hospital outpatient departments (HOPDs) in 2015, an increase of about 13.3 percent from 2014.
- Medicare's average sales price (ASP) payment system for drugs began in 2005. Between 2005 and 2015, total spending grew at an average annual rate of 6.8 percent. Spending growth was slower from 2005 to 2009 (about 3.5 percent per year on average) and was more rapid from 2009 to 2015 (about 9.0 percent per year on average).
- Physicians and suppliers accounted for about two-thirds ($17.0 billion) and HOPDs about one-third ($8.7 billion) of 2015 Part B drug spending.
- Part B drug spending has been growing more rapidly for HOPDs than for physicians and suppliers. Between 2009 and 2015, Part B drug spending grew at an average annual rate of 15.9 percent for HOPDs and 6.4 percent for physicians and suppliers.
- Not included in these data are critical access hospitals and Maryland hospitals, which are not paid under the ASP system, and end-stage renal disease facilities, which are paid for most Part B drugs through the dialysis bundled payment rate. Medicare and beneficiaries spent approximately $600 million in critical access hospitals and $300 million in Maryland hospitals for Part B drugs in 2015.

Chart 10-2. Top 10 Part B drugs paid based on ASP, by type of provider (dollars in millions), 2014 and 2015

	Total Part B drug spending		Physician and supplier Part B drug spending		Hospital outpatient Part B drug spending	
Part B drug	2014	2015	2014	2015	2014	2015
Aflibercept	$1,296	$1,815	$1,216	$1,700	$80	$115
Rituximab	1,505	1,567	830	824	674	744
Pegfilgrastim	1,175	1,263	625	650	550	613
Infliximab	1,177	1,249	758	791	419	458
Ranibizumab	1,332	1,151	1,283	1,108	49	43
Bevacizumab	1,065	1,122	579	585	486	537
Denosumab	769	919	495	583	275	336
Trastuzumab	562	648	282	313	280	335
Pemetrexed	560	549	281	261	279	287
Bortezomib	473	507	276	286	197	220
Total spending, top 10 Part B drugs	**9,913**	**10,791**	**6,625**	**7,101**	**3,288**	**3,690**
Total spending, all Part B drugs	**22,674**	**25,684**	**15,177**	**17,005**	**7,497**	**8,678**

Note: ASP (average sales price). The 10 drugs shown in the chart reflect the top 10 Part B drug billing codes paid under the ASP methodology with the highest Medicare expenditures in 2015. Data for 2014 are shown for comparison. Data include Part B–covered drugs furnished by physicians, suppliers, and hospital outpatient departments, but exclude those furnished by critical access hospitals, Maryland hospitals, and dialysis facilities. "Drug spending" includes Medicare program payments and beneficiary cost sharing. "Total spending, all Part B drugs" reflects all products, whether paid based on the ASP plus 6 percent or another method. Data exclude blood and blood products (other than clotting factor). Components may not sum to totals due to rounding.

Source: MedPAC and Acumen LLC analysis of Medicare claims data.

- Part B drugs are billed under more than 700 billing codes, but spending is concentrated. Medicare spending (including cost sharing) on the top 10 drugs paid under the ASP system, 8 of which were biologics, totaled nearly $11 billion in 2015, about 42 percent of all Part B drug spending that year.

- Many of the top 10 drugs are used to treat cancer or its side effects (rituximab, pegfilgrastim, bevacizumab, denosumab, trastuzumab, pemetrexed, and bortezomib). Drugs used to treat age-related macular degeneration (ranibizumab, aflibercept, and bevacizumab) and rheumatoid arthritis (rituximab and infliximab) are also included in the top 10.

- In 2015, Medicare and beneficiaries spent about $0.9 billion on Prevnar 13, a pneumococcal vaccine paid 95 percent of average wholesale price, up from $0.1 billion in 2014 (data not shown). In 2014, a Centers for Disease Control and Prevention advisory committee recommended a one-time vaccination of all adults age 65 and older, which led to a substantial increase in its use.

- Medicare spending on immune globulin (for which there are several products billed through separate billing codes) amounted to more than $1.2 billion in 2015 (data not shown).

Chart 10-3. Change in Medicare payments and utilization for separately payable Part B drugs, 2009–2014

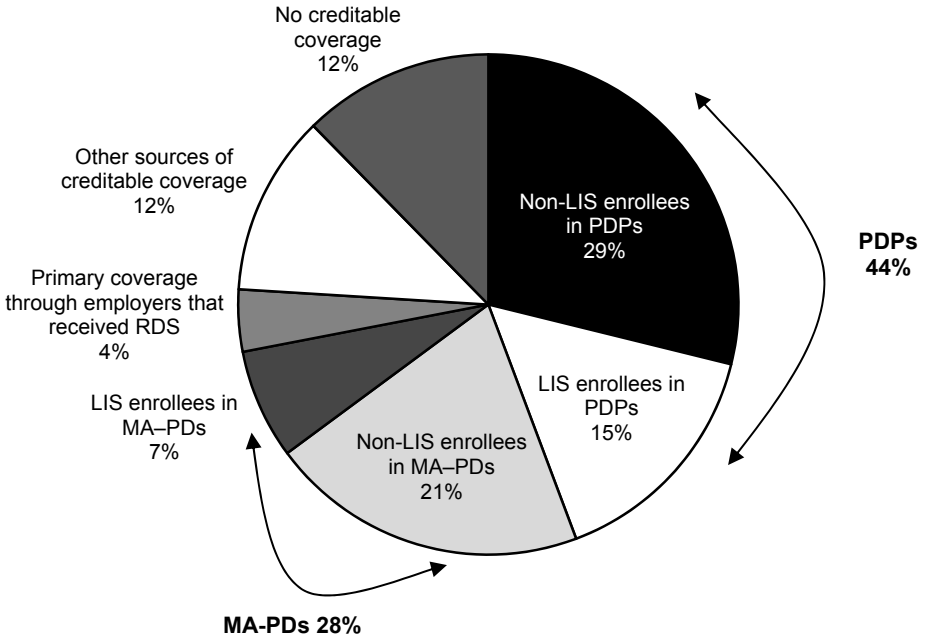
	2009	2014	Average annual growth 2009–2014
Total payments (in billions)	$13.3	$21.2	9.8%
Number of beneficiaries using a Part B drug (in millions)	15.1	17.4	2.9
Average total payments per beneficiary who used Part B drugs	$880	$1,213	6.6
Average number of drugs per beneficiary	1.27	1.32	0.8
Average payment per drug	$693	$916	5.8

Note: This analysis includes all Part B drugs paid the average sales price plus 6 percent (ASP + 6 percent) as well as the small group of Part B drugs that are paid based on the average wholesale price or that are contractor priced. Excluded from the analysis were any Part B drugs that were bundled or packaged in 2009 and/or 2014 (e.g., drugs that were packaged under the outpatient prospective payment system, regardless of the setting where they were furnished, and drugs furnished by dialysis facilities), drugs billed under not-otherwise-classified billing codes, blood and blood products (other than clotting factor), and data for critical access hospitals and Maryland hospitals. The average annual growth rates displayed in the table may differ slightly from the average annual growth rates calculated using the 2009 and 2014 values displayed in the table due to rounding.

Source: MedPAC analysis of Medicare claims data for physicians, hospital outpatient departments, and suppliers.

- Total payments by the Medicare program and beneficiaries for separately payable Part B drugs increased 9.8 percent per year, on average, between 2009 and 2014.
- The largest factor contributing to the change in total payments between 2009 and 2014 was the change in the price Medicare paid for drugs. Between 2009 and 2014, the average payment per drug increased by 5.8 percent per year. This increase reflects increases in the prices of existing drugs and shifts in the mix of drugs, including the adoption of new drugs.
- Price growth accounts for more than half of spending growth, even after accounting for changes in the payment formulas between 2009 and 2014. We standardized payments to remove the effect of payment formula changes (i.e., removed the effect of the sequester and the effect of the different payment formulas in 2009 and 2014 for non-pass-through drugs furnished in outpatient hospitals). Total standardized payments grew at an average annual rate of 10.0 percent between 2009 and 2014, with the average standardized payment per drug growing at an average annual rate of 6.0 percent (data not shown).
- Also contributing to growth in Part B drug payments is growth in the number of beneficiaries using Part B drugs, which increased 2.9 percent per year between 2009 and 2014.
- Among beneficiaries who used Part B drugs, the number of drugs per user grew about 0.8 percent per year between 2009 and 2014.

Chart 10-4. In 2015, 88 percent of Medicare beneficiaries were enrolled in Part D plans or had other sources of creditable drug coverage



Note: LIS (low-income [drug] subsidy), PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]), RDS (retiree drug subsidy). "Creditable coverage" means the value of drug benefits is equal to or greater than that of the basic Part D benefit.

Source: MedPAC analysis of the Medicare denominator file 2015.

- In 2015, more than three-quarters of Medicare beneficiaries either signed up for Part D plans or had prescription drug coverage through employer-sponsored plans under Medicare's RDS. (If an employer agrees to provide primary drug coverage to its retirees with a benefit value that is equal to or greater than that of Part D (called "creditable coverage"), Medicare provides the employer with a tax-free subsidy for 28 percent of each eligible individual's drug costs that fall within a specified range of spending.)

- The share of Medicare beneficiaries with primary coverage through employers that received the RDS (4 percent of beneficiaries) was substantially smaller than in 2012 (12 percent, data not shown) because of a shift of enrollees into Part D employer group waiver plans. That shift reflects changes made by the Patient Protection and Affordable Care Act of 2010 that increased the generosity of the Part D benefit by phasing out the coverage gap and by altering the tax treatment of drug expenses covered by the RDS.

- Nearly 23 percent of Medicare beneficiaries received Part D's LIS in 2015. Of all LIS beneficiaries, more than two-thirds of them (15 percent of all Medicare beneficiaries) were enrolled in stand-alone PDPs, and the remaining beneficiaries (7 percent) were in MA–PD plans.

(Chart continued next page)

Chart 10-4. In 2015, 88 percent of Medicare beneficiaries were enrolled in Part D plans or had other sources of creditable drug coverage (continued)

- Other enrollees in stand-alone PDPs accounted for 29 percent of all Medicare beneficiaries. Another 21 percent of non-LIS enrollees were in MA–PD plans.

- Twelve percent of Medicare beneficiaries had creditable drug coverage, but that coverage did not affect Medicare program spending. Examples of other sources of creditable coverage include the Federal Employees Health Benefits Program, TRICARE, Department of Veterans Affairs, and employers not receiving the RDS.

- Another 12 percent of Medicare beneficiaries had no drug coverage or coverage that was less generous than Part D's defined standard benefit.

Chart 10-5. Changes in parameters of the Part D defined standard benefit over time

	2006	2015	2016	2017	Cumulative change 2006–2017
Deductible	$250.00	$320.00	$360.00	$400.00	60%
Initial coverage limit	2,250.00	2,960.00	3,310.00	3,700.00	64%
Annual out-of-pocket threshold	3,600.00	4,700.00	4,850.00	4,950.00	38%
Total covered drug spending at annual out-of-pocket threshold	5,100.00	7,061.76	7,515.22	8,071.16	58%
Minimum cost sharing above the annual out-of-pocket threshold					
Copay for generic/preferred multisource drugs	2.00	2.65	2.95	3.30	65%
Copay for other prescription drugs	5.00	6.60	7.40	8.25	65%

Note: Under Part D's defined standard benefit, the enrollee pays the deductible and then 25 percent of covered drug spending (75 percent paid by the plan) until total covered drug spending reaches the initial coverage limit (ICL). Before 2011, enrollees exceeding the ICL were responsible for 100 percent of covered drug spending up to the annual out-of-pocket threshold. Beginning in 2011, enrollees pay reduced cost sharing in the coverage gap. For 2011 and later years, the amount of total covered drug spending at the annual out-of-pocket threshold depended on the mix of brand-name and generic drugs filled during the coverage gap. The amounts shown are for individuals not receiving Part D's low-income subsidy who have no other source of supplemental coverage. Cost sharing paid by most sources of supplemental coverage does not count toward this threshold. Above the out-of-pocket limit, the enrollee pays 5 percent coinsurance or the copays shown above, whichever is greater.

Source: CMS Office of the Actuary.

- The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 specified a defined standard benefit structure for Part D. In 2017, the standard benefit has a $400 deductible, 25 percent coinsurance on covered drugs until the enrollee reaches $3,700 in total covered drug spending, and then a coverage gap until out-of-pocket spending reaches the annual threshold. Before 2011, enrollees were responsible for paying the full discounted price of drugs filled during the coverage gap. Because of changes made by the Patient Protection and Affordable Care Act of 2010, enrollees pay reduced cost sharing for drugs filled in the coverage gap. In 2017, the cost sharing for drugs filled during the gap phase is 40 percent for brand-name drugs and 51 percent for generic drugs. Enrollees with drug spending that exceeds the annual threshold pay the greater of $3.30 to $8.25 per prescription or 5 percent coinsurance.

- Most parameters of this defined standard benefit structure have changed over time at the same rate as the annual change in average total drug expenses of Medicare beneficiaries enrolled in Part D. The benefit parameters have generally increased over time, with the exception of 2014. The parameters have grown cumulatively by 38 percent to 65 percent between 2006, the year Part D began, and 2017.

(Chart continued next page)

Chart 10-5. Changes in parameters of the Part D defined standard benefit over time (continued)

- Within certain limits, sponsoring organizations may offer Part D plans that have the same actuarial value as the defined standard benefit but a different benefit structure, and most sponsoring organizations do offer such plans. For example, a plan may use tiered copayments rather than 25 percent coinsurance or have no deductible but use cost-sharing requirements that are equivalent to a rate higher than 25 percent. Defined standard benefit plans and plans that are actuarially equivalent to the defined standard benefit are both known as “basic benefits.”

- Once a sponsoring organization offers one plan with basic benefits within a prescription drug plan region, it may also offer a plan with enhanced benefits—basic and supplemental coverage combined.

Chart 10-6. Characteristics of stand-alone Medicare PDPs

	2016				2017			
	Plans		Enrollees as of February 2016		Plans		Enrollees as of February 2017	
	Number	Percent	Number (in millions)	Percent	Number	Percent	Number (in millions)	Percent
Total	886	100%	19.9	100%	746	100%	20.5	100%
Type of organization								
National	685	77	18.1	91	643	86	19.1	93
Other	201	23	1.8	9	103	14	1.5	7
Type of benefit								
Defined standard	0	0	0.0	0	0	0	0.0	0
Actuarially equivalent	438	49	11.6	58	359	48	12.2	59
Enhanced	448	51	8.4	42	387	52	8.4	41
Type of deductible								
Zero	290	33	9.8	49	280	38	9.7	47
Reduced	128	14	0.6	3	110	15	1.5	7
Defined standard*	468	53	9.6	48	356	48	9.4	46
Drugs covered in the gap								
Some coverage	199	22	2.5	12	208	28	2.9	14
None	687	78	17.5	88	538	72	17.6	86

Note: PDP (prescription drug plan). The PDPs and enrollment described here exclude employer-only plans and plans offered in U.S. territories. "National" data reflect the total number of plans for organizations with at least 1 PDP in each of the 34 PDP regions. Components may not sum to totals due to rounding. "Actuarially equivalent" includes both actuarially equivalent standard and basic alternative benefits. "Enhanced" refers to plans with basic plus supplemental coverage. *The defined standard benefit's deductible was $360 in 2016 and is $400 in 2017.

Source: MedPAC analysis of CMS landscape, premium, and enrollment data.

- Between 2016 and 2017, the number of stand-alone PDPs decreased by nearly 16 percent. Plan sponsors are offering 746 PDPs in 2017 compared with 886 in 2016.
- In 2017, 86 percent of all PDPs are offered by sponsoring organizations that have at least 1 PDP in each of the 34 PDP regions (shown as "national" organizations in the table). Plans offered by those national sponsors account for 93 percent of all PDP enrollment.
- For 2017, the share of PDP offerings including enhanced benefits (basic plus supplemental coverage) is similar to that in 2016. Likewise, the share of PDPs with actuarially equivalent benefits (having the same average value as the defined standard benefit but with alternative benefit designs) remains about the same. Sponsors are offering no PDPs with the defined standard benefit in 2017. Actuarially equivalent plans continue to attract the largest share of PDP enrollees (59 percent), and the share of enrollees choosing to enroll in enhanced benefit plans remains fairly constant at 41 percent in 2017 compared with 42 percent in 2016.
- A larger share of PDPs includes gap coverage for some drugs (usually generics) in 2017 than in 2016, and in 2017 the majority of PDP enrollees (86 percent) continue to enroll in plans that offer no additional benefits in the coverage gap. However, because of the changes made by the Patient Protection and Affordable Care Act of 2010, the Part D benefit now includes some coverage for medications filled during the gap phase. In addition, many PDP enrollees receive Part D's low-income subsidy, which effectively eliminates the coverage gap.

Chart 10-7. Characteristics of MA–PDs

	2016				2017			
	Plans		Enrollees as of February 2016		Plans		Enrollees as of February 2017	
	Number	Percent	Number (in millions)	Percent	Number	Percent	Number (in millions)	Percent
Totals	1,682	100%	11.2	100%	1,734	100%	11.9	100%
Type of organization								
Local HMO	1,205	72	8.1	72	1,241	72	8.5	72
Local PPO	409	24	2.0	18	429	25	2.3	19
PFFS	38	2	0.2	1	32	2	0.1	1
Regional PPO	30	2	0.9	8	32	2	1.0	8
Type of benefit								
Defined standard	30	2	0.1	1	24	1	0.1	1
Actuarially equivalent	185	11	1.4	13	148	9	1.3	11
Enhanced	1,467	87	9.7	86	1,562	90	10.5	89
Type of deductible								
Zero	933	55	5.5	49	852	49	5.5	46
Reduced	483	29	4.2	37	711	41	5.5	46
Defined standard*	266	16	1.6	14	171	10	1.0	8
Drugs covered in the gap								
Some coverage	744	44	5.2	47	914	53	6.3	53
None	938	56	6.0	53	820	47	5.6	47

Note: MA–PD (Medicare Advantage–Prescription Drug [plan]), HMO (health maintenance organization), PPO (preferred provider organization), PFFS (private fee-for-service). The MA–PD plans and enrollment described here exclude employer-only plans, plans offered in U.S. territories, 1876 cost plans, special needs plans, demonstrations, and Part B–only plans. Components may not sum to totals due to rounding. "Actuarially equivalent" includes both actuarially equivalent standard and basic alternative benefits. "Enhanced" refers to plans with basic plus supplemental coverage. *The defined standard benefit's deductible was $360 in 2016 and is $400 in 2017.

Source: MedPAC analysis of CMS landscape, premium, and enrollment data.

- There are 3 percent more MA–PD plans in 2017 than in 2016. Sponsors are offering 1,734 MA–PD plans in 2017 compared with 1,682 the year before. HMOs remain the dominant kind of MA–PD plan, making up 72 percent of all (unweighted) offerings in 2017. The number of PFFS plans continues to decline, from 38 in 2016 to 32 in 2017. Between 2016 and 2017, the number of drug plans offered by local PPOs increased from 409 plans to 429 plans, and the number of drug plans offered by regional PPOs increased from 30 plans to 32 plans.

- A larger share of MA–PD plans than stand-alone prescription drug plans (PDPs) offer enhanced benefits (compare Chart 10-7 with Chart 10-6). In 2017, 52 percent of all PDPs have enhanced benefits compared with 90 percent of MA–PD plans. In 2017, enhanced MA–PD plans attracted 89 percent of total MA–PD enrollment.

- Forty-nine percent of MA–PD plans have no deductible in 2017. These plans attracted 46 percent of total MA–PD enrollees in 2017.

- MA–PD plans are more likely than PDPs to provide some additional benefits in the coverage gap. In 2017, about 53 percent of MA–PD plans include some gap coverage—higher than the year before. Those plans account for 53 percent of MA–PD enrollment.

Chart 10-8. Change in average Part D premiums, 2013–2017

	Average monthly premium weighted by enrollment					Cumulative change in weighted average premium, 2013–2017
	2013	2014	2015	2016	2017	
All plans						
Basic coverage	$32	$29	$26	$28	$30	–4%
Enhanced coverage	28	30	33	33	33	17
Any coverage	30	29	30	31	32	7
PDPs						
Basic coverage	32	30	28	29	31	–3
Enhanced coverage	49	49	48	53	54	11
Any coverage	39	38	37	39	41	5
MA–PDs, including SNPs						
Basic coverage	29	25	21	22	26	–9
Enhanced coverage	13	13	16	17	18	40
Any coverage	15	16	18	18	19	29
Base beneficiary premium	31.17	32.42	33.13	34.10	35.63	14

Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]), SNP (special needs plan). All calculations exclude employer-only groups and plans offered in U.S. territories. In addition, MA–PD plans exclude Part B–only plans, demonstrations, and 1876 cost plans. The MA–PD data reflect the portion of Medicare Advantage plans' total monthly premium attributable to Part D benefits for plans that offer Part D coverage, as well as Part C rebate dollars that were used to offset Part D premium costs. The fact that average premiums for enhanced MA–PD plans are lower than for basic MA–PD plans could reflect several factors such as changes in enrollment among plan sponsors and counties of operation and differences in the average health status of plan enrollees. Cumulative changes were calculated from unrounded data.

Source: MedPAC analysis of CMS landscape, plan report, and enrollment data.

- The overall average premium (for any coverage) paid by Part D enrollees grew slowly from $30 per month in 2013 to $32 per month in 2017. However, year-to-year changes have differed by the type of benefit (basic vs. enhanced coverage) and type of plan (PDP vs. MA−PD), and they generally have not corresponded to changes observed in the base beneficiary premium.

- Over the five-year period, the average enrollee premium for basic coverage in PDPs ranged between a high of $32 per month in 2013 and a low of $28 in 2015, decreasing by a cumulative 3 percent from 2013 to 2017. The average enrollee premium for PDPs offering enhanced coverage has increased from $49 in 2013 to $54 in 2017, a cumulative 11 percent increase.

- Between 2013 and 2017, the average premium paid by beneficiaries enrolled in MA−PD plans with basic coverage ranged between a high of $29 per month in 2013 and a low of $21 in 2015, decreasing by a cumulative 9 percent. The average premium paid by beneficiaries enrolled in MA−PD plans offering enhanced coverage has increased from $13 in 2013 to $18 in 2017, a cumulative 40 percent increase.

Chart 10-9. More premium-free (for LIS enrollees) PDPs in 2017

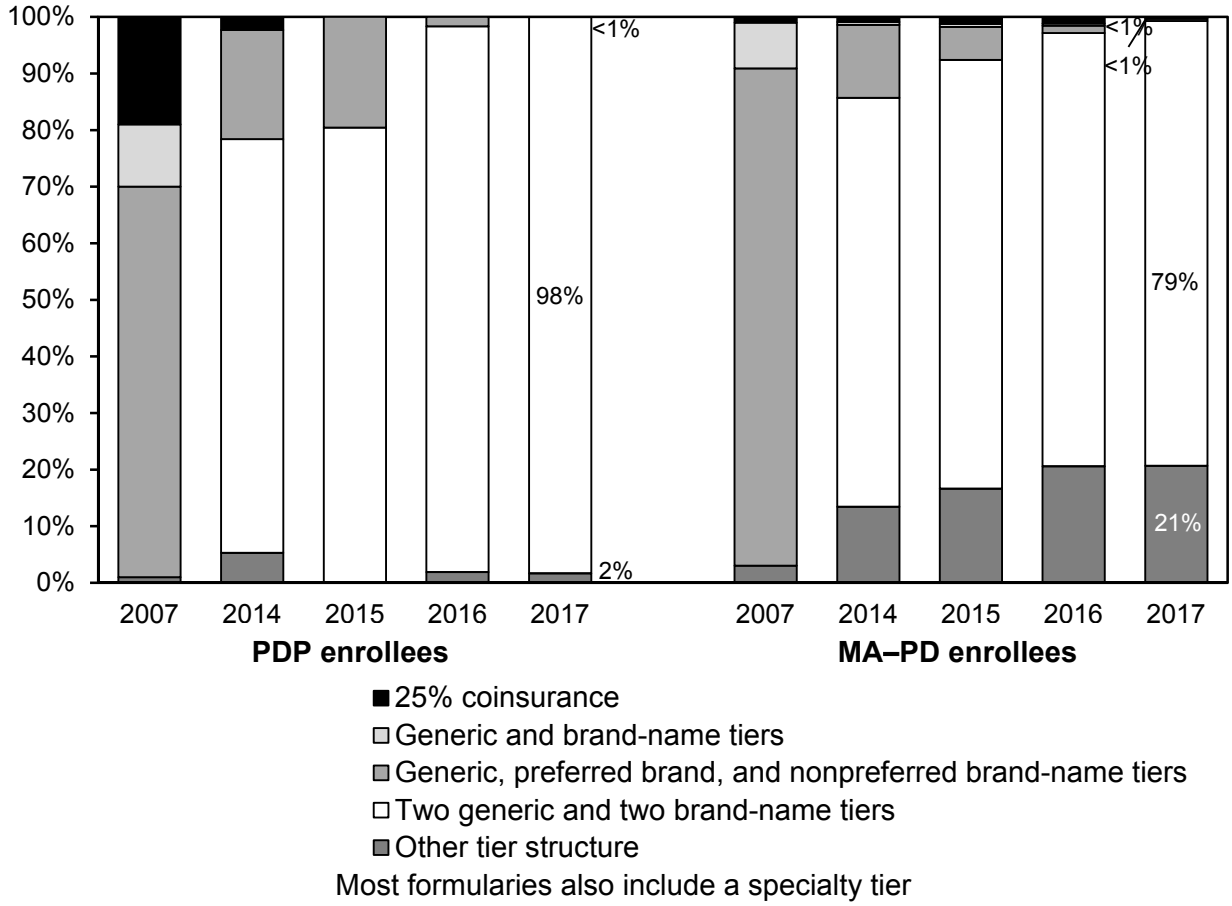
PDP region	State(s)	Number of PDPs			Number of PDPs that have zero premium for LIS enrollees		
		2016*	2017*	Difference	2016*	2017*	Difference
1	ME, NH	27	23	–4	9	8	–1
2	CT, MA, RI, VT	26	21	–5	6	7	1
3	NY	22	19	–3	7	8	1
4	NJ	25	21	–4	8	8	0
5	DC, DE, MD	24	20	–4	10	10	0
6	PA, WV	29	24	–5	9	9	0
7	VA	28	23	–5	7	7	0
8	NC	26	22	–4	5	7	2
9	SC	27	21	–6	4	6	2
10	GA	27	23	–4	5	4	–1
11	FL	22	20	–2	3	3	0
12	AL, TN	27	24	–3	7	7	0
13	MI	28	23	–5	7	8	1
14	OH	27	22	–5	5	6	1
15	IN, KY	28	23	–5	7	7	0
16	WI	27	24	–3	7	7	0
17	IL	28	23	–5	9	9	0
18	MO	28	23	–5	4	4	0
19	AR	26	22	–4	4	5	1
20	MS	24	19	–5	6	7	1
21	LA	25	20	–5	7	7	0
22	TX	28	23	–5	7	6	–1
23	OK	27	22	–5	6	7	1
24	KS	25	22	–3	4	5	1
25	IA, MN, MT, ND, NE, SD, WY	26	22	–4	5	6	1
26	NM	27	23	–4	8	9	1
27	CO	26	23	–3	6	7	1
28	AZ	26	22	–4	10	10	0
29	NV	28	23	–5	4	4	0
30	OR, WA	26	21	–5	9	8	–1
31	ID, UT	28	24	–4	9	9	0
32	CA	28	24	–4	6	6	0
33	HI	21	19	–2	2	5	3
34	AK	19	18	–1	6	5	–1
	Total	886	746	–140	218	231	13

Note: LIS (low-income [drug] subsidy), PDP (prescription drug plan).
*These figures include 12 plans in 2016 and 25 plans in 2017 that did not accept new enrollees because of CMS sanctions.

Source: MedPAC based on 2016 and 2017 PDP landscape file provided by CMS.

- The total number of stand-alone PDPs decreased by 16 percent, from 886 in 2016 to 746 in 2017. The median number of plans offered in PDP regions decreased to 22 plans from 27 in 2016 (data not shown). In 2017, AK has the fewest stand-alone PDPs, with 18; 5 regions have the most, with 24—Region 6 (PA, WV), Region 12 (AL, TN), Region 16 (WI), Region 31 (ID, UT), and Region 32 (CA).
- In 2017, 231 PDPs qualify as premium free to LIS enrollees. With the exception of FL, which has only three plans with no premium for LIS enrollees, at least four premium-free PDPs are available in any given region. However, 25 plans were not accepting new enrollees because of CMS sanctions, reducing the number of premium-free options to 206 PDPs.

Chart 10-10. In 2017, most Part D enrollees are in plans that use a five-tier formulary structure

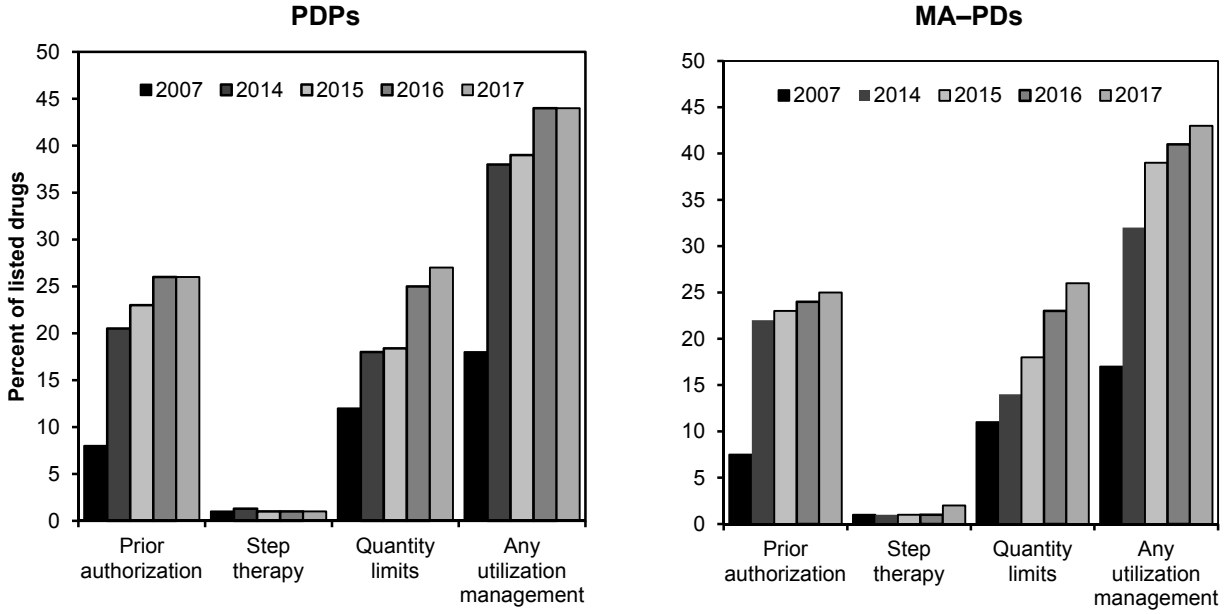


Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]). Calculations are weighted by enrollment. All calculations exclude employer-only groups and plans offered in U.S. territories. In addition, MA–PDs exclude demonstration programs, special needs plans, and 1876 cost plans. Components may not sum to totals due to rounding. Over 99 percent of stand-alone PDPs and MA−PDs have a specialty tier in addition to the tiers listed above. The algorithm used to classify formularies was modified beginning with 2016 data but does not materially affect results.

Source: MedPAC and MedPAC-sponsored analyses by NORC/Social and Scientific Systems of formularies submitted to CMS.

- Most Part D enrollees choose plans that distinguish between preferred and nonpreferred brand-name drugs and preferred and nonpreferred generic drugs. In 2017, 98 percent of PDP enrollees are in plans that have two generic and two brand-name tiers, an increase from 96 percent in 2016. About 79 percent of MA–PD enrollees are in such plans in 2017, an increase from 77 percent in 2016.
- For enrollees in PDPs with two generic and two brand-name tiers, the median copay in 2017 is $40 for a preferred brand-name drug and 40 percent coinsurance for a nonpreferred brand-name drug (data not shown). The median copay for generic drugs is $1 for generic drugs on the lower tier and $7 for the higher tier. For MA–PD enrollees, in 2017, the median copay is $47 for a preferred brand, 45 percent coinsurance for a nonpreferred brand, and $2 and $11 for a generic drug on the two generic tiers, respectively.
- Most plans also use a specialty tier for drugs that have a negotiated price of $670 per month or more. In 2017, median cost sharing for a specialty-tier drug is 25 percent among PDPs and 29 percent among MA–PD plans (data not shown).

Chart 10-11. In 2017, PDPs and MA–PDs apply some utilization management to more than 40 percent of listed drugs



Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]). Calculations are weighted by enrollment. All calculations exclude employer-only groups and plans offered in U.S. territories. In addition, MA–PD plans exclude demonstration programs, special needs plans, and 1876 cost plans. Values reflect the share of listed chemical entities that are subject to utilization management, weighted by plan enrollment. "Prior authorization" means that the enrollee must get preapproval from the plan before coverage. "Step therapy" refers to a requirement that the enrollee try specified drugs before being prescribed other drugs in the same therapeutic category. "Quantity limits" means that plans limit the number of doses of a drug available to the enrollee in a given time period. The algorithm used to classify formularies was modified beginning with 2016 data but does not materially affect results.

Source: MedPAC and MedPAC-sponsored analyses by NORC/Social and Scientific Systems of formularies submitted to CMS.

- In addition to the number of drugs listed on a plan's formulary, plans' processes for nonformulary exceptions—prior authorization (preapproval from plans before coverage), quantity limits (plan limitations on the number of doses of a particular drug covered in a given period), and step therapy requirements (enrollees must try specified drugs before being prescribed other drugs in the same therapeutic category)—can affect access to certain drugs.

- In 2017, the average enrollee in a stand-alone PDP faces some form of utilization management for about 44 percent of drugs listed on a plan's formulary, about the same rate as in 2016. The average MA–PD enrollee faces some form of utilization management for 43 percent of drugs listed on a plan's formulary, an increase from 41 percent in 2016. Part D plans typically use quantity limits or prior authorization to manage enrollees' prescription drug use.

- Among the drugs listed on plan formularies for stand-alone PDPs, the share that requires prior authorization in 2017 remained unchanged from 2016 at 26 percent. The share with quantity limits increased from 25 percent in 2016 to 27 percent in 2017. Among MA–PDs, both the use of prior authorization and the use of quantity limits increased between 2016 and 2017, from 24 percent to 25 percent for prior authorization and from 23 percent to 26 percent for quantity limits. The share of drugs listed on plan formularies that requires the use of step therapy remained very low for both stand-alone PDPs and MA–PDs.

Chart 10-12. Characteristics of Part D enrollees, 2014

	All Medicare	Part D	Plan type		Subsidy status	
			PDP	MA–PD	LIS	Non-LIS
Beneficiaries[a] (in millions)	56.6	40.0	25.1	14.9	12.8	27.2
Percent of all Medicare	100%	71%	44%	26%	23%	48%
Gender						
Male	46%	42%	42%	43%	40%	44%
Female	54	58	58	57	60	56
Race/ethnicity						
White, non-Hispanic	76	74	77	69	56	83
African American, non-Hispanic	10	11	11	11	20	7
Hispanic	9	10	7	15	16	7
Asian	3	3	3	4	6	2
Other	2	2	2	2	2	2
Age (years)[b]						
<65	19	19	22	16	42	9
65–69	26	24	23	26	16	28
70–74	19	20	19	22	13	24
75–79	14	15	14	15	10	17
80+	22	22	23	21	19	24
Urbanicity[c]						
Metropolitan	82	82	78	89	81	83
Micropolitan	10	10	12	7	11	10
Rural	8	8	10	4	8	7

Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]), LIS (low-income [drug] subsidy). Percentages may not sum to 100 due to rounding.
[a]Figures for "All Medicare" and "Part D" include all beneficiaries with at least one month of enrollment in the respective program. A beneficiary is classified as "LIS" if that individual received Part D's LIS at some point during the year. For individuals who switch plan types during the year, classification into plan types is based on the greater number of months of enrollment.
[b]Age as of July 2014.
[c]Urbanicity is based on the Office of Management and Budget's core-based statistical areas as of February 2013. A metropolitan area contains a core urban area of 50,000 or more people, and a micropolitan area contains an urban core of at least 10,000 (but fewer than 50,000) people. About 1 percent of Medicare beneficiaries were excluded because of an unidentifiable core-based statistical area designation.

Source: MedPAC analysis of Medicare Part D denominator file from CMS.

- In 2014, 40 million Medicare beneficiaries (71 percent) were enrolled in Part D at some point in the year. Most of them (25.1 million) were in stand-alone PDPs, with 14.9 million in MA–PD plans. Nearly 13 million enrollees received Part D's LIS.
- Compared with the overall Medicare population, Part D enrollees are more likely to be female and non-White. MA–PD enrollees are less likely to be disabled beneficiaries under age 65 and more likely to be Hispanic compared with PDP enrollees; LIS enrollees are more likely to be female, non-White, and disabled beneficiaries under age 65 compared with non-LIS enrollees.
- Patterns of enrollment by urbanicity for Part D enrollees were similar to the overall Medicare population: 82 percent in metropolitan areas, 10 percent in micropolitan areas, and the remaining 8 percent in rural areas.

Chart 10-13. Part D enrollment trends, 2007–2014

	2007	2010	2014	Average annual growth rate 2007–2010	2010–2014	2007–2014
Part D enrollment (in millions)*						
Total	26.1	29.7	40.0	4.4%	7.7%	6.3%
By plan type						
PDP	18.3	18.9	25.1	1.1	7.3	4.6
MA–PD	7.8	10.6	14.9	10.9	8.9	9.8
By subsidy status						
LIS	10.4	11.3	12.8	2.7	3.1	2.9
Non-LIS	15.7	18.4	27.2	5.5	10.2	8.2
By race/ethnicity						
White, non-Hispanic	19.4	22.0	29.6	4.3	7.7	6.2
African American, non-Hispanic	2.9	3.3	4.4	4.1	7.4	5.9
Hispanic	2.5	3.0	3.9	5.8	6.7	6.3
Other	1.3	1.4	2.1	3.9	10.3	7.5
By age (years)**						
<65	5.5	6.3	7.8	4.7	5.5	5.2
65–69	5.4	6.6	9.5	6.5	9.9	8.4
70–79	8.8	9.9	13.9	3.8	8.9	6.7
80+	6.4	7.1	8.8	3.2	5.7	4.6
Part D enrollment (in percent)						
Total	100%	100%	100%			
By plan type						
PDP	70	64	63			
MA–PD	30	36	37			
By subsidy status						
LIS	40	38	32			
Non-LIS	60	62	68			
By race/ethnicity						
White, non-Hispanic	74	74	74			
African American, non-Hispanic	11	11	11			
Hispanic	10	10	10			
Other	5	5	5			
By age (years)**						
<65	21	21	19			
65–69	21	22	24			
70–79	34	33	35			
80+	25	24	22			

Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]), LIS (low-income [drug] subsidy). A beneficiary is classified as "LIS" if that individual received Part D's LIS at some point during the year. If a beneficiary was enrolled in both a PDP and an MA–PD plan during the year, that individual was classified into the type of plan with the greater number of months of enrollment. Numbers may not sum to totals due to rounding.
*Figures include all beneficiaries with at least one month of enrollment.
**Age figures are as of July of the respective year.

Source: MedPAC analysis of Medicare Part D denominator file from CMS.

(Chart continued next page)

Chart 10-13. Part D enrollment trends, 2007–2014 (continued)

- Part D enrollment grew faster between 2010 and 2014 (average annual growth rate (AAGR) of 7.7 percent) than between 2007 and 2010 (AAGR of 4.4 percent). Between 2010 and 2014, the largest growth in enrollment was observed for beneficiaries ages 65 to 69 (9.9 percent annually, on average), followed by beneficiaries ages 70 to 79 (8.9 percent annually, on average).

- While MA–PD plan enrollment grew faster than PDP enrollment between 2007 and 2010 (nearly 11 percent annually compared with about 1 percent annually, on average, respectively), the growth rates were more comparable between MA–PDs and PDPs between 2010 and 2014 (AAGR of 8.9 percent and 7.3 percent, respectively).

- The number of enrollees receiving the LIS grew modestly between 2007 and 2010 at 2.7 percent per year. Higher growth rates (3.1 percent) were observed between 2010 and 2014. The average annual growth in the number of non-LIS enrollees was also greater between 2010 and 2014 (10.2 percent) than it was between 2007 and 2010 (5.5 percent). Faster enrollment growth among non-LIS enrollees is partly attributable to the recent growth in employer group waiver plans that shifted beneficiaries into Part D plans from employer plans that had previously received Medicare's retiree drug subsidy (RDS) (see Chart 10-4 for information on the RDS).

Chart 10-14. Part D enrollment by region, 2014

PDP region	State(s)	Percent of Medicare enrollment		Percent of Part D enrollment			
				Plan type		Subsidy status	
		Part D	RDS	PDP	MA–PD	LIS	Non-LIS
1	ME, NH	65%	5%	80%	20%	39%	61%
2	CT, MA, RI, VT	69	9	70	30	39	61
3	NY	76	6	56	44	38	62
4	NJ	71	6	82	18	26	74
5	DE, DC, MD	59	7	87	13	34	66
6	PA, WV	73	5	58	42	29	71
7	VA	61	4	77	23	31	69
8	NC	72	5	63	37	33	67
9	SC	70	3	71	29	33	67
10	GA	70	3	60	40	37	63
11	FL	73	5	50	50	31	69
12	AL, TN	72	4	62	38	37	63
13	MI	76	5	76	24	26	74
14	OH	76	4	67	33	27	73
15	IN, KY	72	5	74	26	32	68
16	WI	69	4	61	39	26	74
17	IL	69	8	78	22	32	68
18	MO	72	3	66	34	29	71
19	AR	67	5	75	25	40	60
20	MS	70	2	82	18	47	53
21	LA	72	5	62	38	41	59
22	TX	68	5	66	34	36	64
23	OK	65	2	78	22	33	67
24	KS	69	2	83	17	25	75
25	IA, MN, MT, NE, ND, SD, WY	72	3	74	26	24	76
26	NM	69	3	57	43	37	63
27	CO	70	4	51	49	25	75
28	AZ	70	4	49	51	28	72
29	NV	66	5	52	48	26	74
30	OR, WA	66	7	53	47	29	71
31	ID, UT	65	5	54	46	25	75
32	CA	76	4	50	50	36	64
33	HI	70	2	37	63	27	73
34	AK	41	23	98	2	55	45
	Mean	71	5	63	37	32	68
	Minimum	41	2	37	2	24	45
	Maximum	76	23	98	63	55	76

Note: PDP (prescription drug plan), RDS (retiree drug subsidy), MA–PD (Medicare Advantage–Prescription Drug [plan]), LIS (low-income [drug] subsidy). Definition of regions is based on PDP regions used in Part D.

Source: MedPAC analysis of Part D enrollment data from CMS.

- Among Part D regions in 2014, all but two regions (Region 5 (DE, DC, MD), and Region 34 (AK)) had over 60 percent of all Medicare beneficiaries enrolled in Part D. Beneficiaries were less likely to enroll in Part D in regions where employer-sponsored drug coverage continues to be available. For example, in Region 34, the share of Medicare beneficiaries enrolled in Part D was 41 percent, while the share of beneficiaries enrolled in employer-sponsored plans that received the RDS was 23 percent. In other regions (Region 5 and Region 7), many beneficiaries likely received their drug coverage through the Federal Employees Health Benefits Program, which does not receive the RDS.

(Chart continued next page)

Chart 10-14. Part D enrollment by region, 2014 (continued)

- In 2014, all regions except Region 34 experienced a decrease in the number of beneficiaries who received the RDS (data not shown). In many regions, the decreases in RDS recipients were accompanied by larger than average increases in Part D enrollment (e.g., Region 5, Region 9, Region 17, and Region 27). The continued trend is likely motivated by changes made by the Patient Protection and Affordable Care Act of 2010 that increased the generosity of Part D coverage and altered the tax treatment of drug expenses covered by the RDS.

- Wide variation was seen in the shares of Part D beneficiaries who enrolled in PDPs and MA–PD plans across PDP regions. The pattern of MA–PD enrollment is generally consistent with enrollment in Medicare Advantage plans.

- The share of Part D enrollees receiving the LIS ranged from 24 percent in Region 25 (IA, MN, MT, NE, ND, SD, and WY) to 55 percent in Region 34 (AK). In 19 of the 34 PDP regions, LIS enrollees accounted for 30 percent to 50 percent of enrollment.

Chart 10-15. Components of Part D spending growth

	2009	2014	Average annual growth 2009–2014
Total gross spending (in billions)			
High-cost beneficiaries	$29.2	$64.6	17.2%
Lower cost beneficiaries	44.6	56.7	4.9%
All beneficiaries	73.7	121.4	10.5%
Number of beneficiaries using a Part D drug (in millions)			
High-cost beneficiaries	2.4	3.4	7.6%
Lower cost beneficiaries	24.1	33.7	6.9%
All beneficiaries	26.5	37.1	7.0%
Amount per beneficiary who used Part D drugs			
Average price per 30-day prescription	$55	$60	1.7%
Number of 30-day prescriptions	50.4	54.5	1.5%
Gross drug spending per year	$2,781	$3,267	3.3%
Amount per high-cost beneficiary who used Part D drugs			
Average price per 30-day prescription	$110	$166	8.4%
Number of 30-day prescriptions	111.4	113.9	0.4%
Gross drug spending per year	$12,294	$18,845	8.9%
Amount per lower cost beneficiary who used Part D drugs			
Average price per 30-day prescription	$42	$35	–3.5%
Number of 30-day prescriptions	44.5	48.4	1.7%
Gross drug spending per year	$1,846	$1,683	–1.8%

Note: "High-cost beneficiaries" refers to individuals who incurred spending high enough to reach the catastrophic phase of the benefit. "Gross spending" reflects payments to pharmacies from all payers, including beneficiary cost sharing, but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. Changes in the average price per prescription reflect both price inflation and changes in the mix of drugs used. Components may not sum to totals due to rounding.

Source: MedPAC analysis of Part D prescription drug event data and denominator files from CMS.

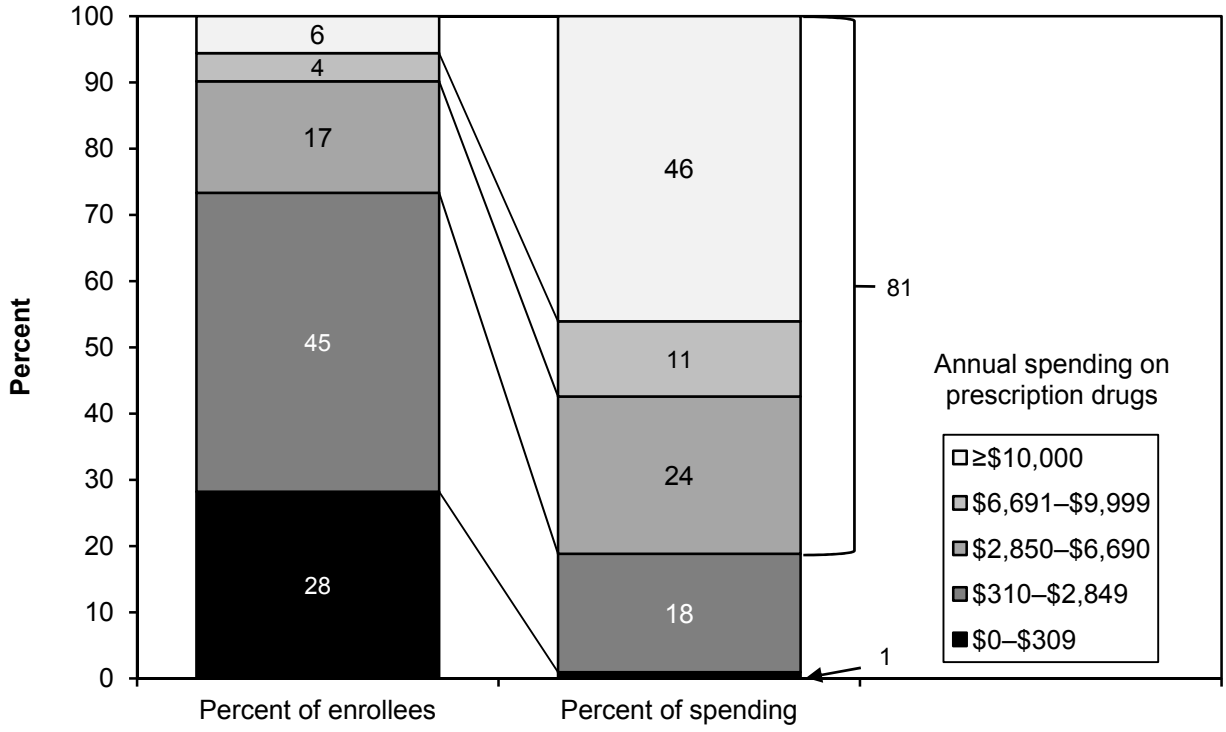
- Between 2009 and 2014, gross spending on drugs under the Part D program grew by an annual average rate of 10.5 percent. The annual growth in spending was considerably higher (17.2 percent) among high-cost beneficiaries (individuals who incurred spending high enough to reach the catastrophic phase of the benefit) compared with less than 5 percent for lower cost beneficiaries.

- During the 2009 through 2014 period, the number of beneficiaries who used Part D drugs grew by an annual average rate of 7 percent, with faster growth observed among high-cost beneficiaries (7.6 percent) than among lower cost beneficiaries (6.9 percent).

- Overall, between 2009 and 2014, the growth in prices per 30-day prescription accounted for slightly more than half (1.7 percent) of the 3.3 percent average annual growth in spending per beneficiary among beneficiaries who used Part D drugs.

- The average annual growth rate in overall spending per beneficiary reflects two distinct patterns of price and spending growth for high-cost beneficiaries and lower cost beneficiaries. Among high-cost beneficiaries, annual growth in prices (8.4 percent) accounted for nearly all of the spending growth (8.9 percent) during this period. In contrast, among lower cost beneficiaries, the annual decrease in prices (3.5 percent) resulted in an overall decrease in spending (–1.8 percent annually), despite an increase in the number of prescriptions filled during the same period.

Chart 10-16. The majority of Part D spending was incurred by slightly over one-quarter of all Part D enrollees, 2014



Note: "Spending" (gross) reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. Annual spending categories used for this analysis generally correspond to the parameters of the defined standard benefit. In 2014, an individual without Part D's low-income subsidy or other sources of supplemental coverage would have reached the catastrophic phase of the benefit at $6,690.77 in total drug spending, assuming that expenses for brand-name drugs accounted for 86.2 percent of total drug spending in the coverage gap. Components may not sum to totals due to rounding.

Source: MedPAC analysis of Medicare Part D prescription drug event data from CMS.

- Medicare Part D spending is concentrated in a subset of beneficiaries. In 2014, about 27 percent of Part D enrollees had annual spending of $2,850 or more, at which point enrollees were responsible for a higher proportion of the cost of the drug until their spending reached $6,690.77 under the defined standard benefit. These beneficiaries accounted for 81 percent of total Part D spending.

- The costliest 10 percent of beneficiaries, those with drug spending above the catastrophic threshold under the defined standard benefit, accounted for 57 percent of total Part D spending. Sixty-two percent of beneficiaries with the highest spending received Part D's low-income [drug] subsidy (see Chart 10-17). Spending on prescription drugs is less concentrated than Medicare Part A and Part B spending. In 2013, the costliest 5 percent of beneficiaries accounted for 42 percent of annual Medicare fee-for-service (FFS) spending, and the costliest quartile accounted for 84 percent of Medicare FFS spending (see Chart 1-11).

- In 2014, the share of Part D enrollees with annual gross spending at or above $10,000 increased to 6 percent from 5 percent in 2013 and earlier years. Those costliest 6 percent of enrollees accounted for 46 percent of spending in 2014.

Chart 10-17. Characteristics of Part D enrollees, by spending levels, 2014

	Annual drug spending		
	<$2,850	$2,850–$6,690	≥$6,691
Sex			
Male	43%	40%	41%
Female	57	60	59
Race/ethnicity			
White, non-Hispanic	74	76	70
African American, non-Hispanic	11	11	14
Hispanic	10	9	10
Other	5	5	6
Age (years)			
<65	17	20	37
65–69	26	19	17
70–74	21	20	16
75–80	15	16	12
80+	22	25	17
LIS status*			
LIS	26	39	62
Non-LIS	74	61	38
Plan type**			
PDP	60	68	74
MA–PD	40	32	26

Note: LIS (low-income [drug] subsidy), PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]). "Spending" (gross) reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. A small number of beneficiaries were excluded from the analysis because of missing data. Percentages may not sum to 100 due to rounding.
*A beneficiary was assigned LIS status if that individual received Part D's LIS at some point during the year.
**If a beneficiary was enrolled in both a PDP and an MA–PD plan during the year, that individual was classified in the type of plan with the greater number of months of enrollment.

Source: MedPAC analysis of Medicare Part D prescription drug event data and Part D denominator file from CMS.

- In 2014, Part D enrollees with annual drug spending between $2,850 and $6,690 and those with spending at or above $6,691 were more likely to be female than enrollees with annual spending below $2,850 (60 percent and 59 percent, respectively, compared with 57 percent).

- Part D enrollees with annual spending at or above $6,691 were more likely to be non-White, disabled, under age 65, and receiving the LIS compared with those with annual spending below $2,850.

- Part D enrollees entered the catastrophic phase of the benefit at about $6,691 in total drug spending in 2014. While LIS enrollees are more likely to reach the catastrophic phase of the benefit, their share has been declining, from more than three-quarters in 2010 and earlier years to 65 percent in 2013 (not shown in chart) and 62 percent in 2014. This decline reflects more rapid enrollment growth among individuals who do not receive the LIS as well as the growth in average prices of drugs taken by those individuals.

- About three-quarters of Part D enrollees with spending at or above $6,691 were enrolled in stand-alone PDPs (74 percent) compared with MA–PD plans (26 percent). In contrast, beneficiaries with annual spending below $2,850 were more likely to be in MA–PDs compared with those with higher annual spending (40 percent compared with 26 percent). This contrast reflects the facts that LIS enrollees are more costly on average and are more likely to be in PDPs.

Chart 10-18. Part D spending and use per enrollee, 2014

	Part D	Plan type		LIS status	
		PDP	MA–PD	LIS	Non-LIS
Total gross spending (billions)*	$121.4	$85.1	$36.2	$60.3	$61.0
Total number of prescriptions (millions)	2,023	1,307	716	774	1,249
Average spending per prescription	$60	$65	$51	$78	$49
Per enrollee per month					
Total spending	$268	$303	$211	$427	$196
OOP spending	33	34	31	6	45
Manufacturer gap discount	11	13	8	N/A	16
Plan liability	164	182	134	273	115
Low-income cost-sharing subsidy	46	56	30	148	N/A
Number of prescriptions	4.5	4.6	4.2	5.5	4.0

Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]), LIS (low-income [drug] subsidy), OOP (out of pocket), N/A (not applicable). "Total gross spending" reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. Total spending does not necessarily equal the sum of OOP spending, manufacturer gap discount, plan liability, and low-income cost-sharing subsidy because other smaller sources of payment are not shown. Part D prescription drug event (PDE) records are classified into plan types based on the contract identification on each record. For purposes of classifying the PDE records by LIS status, monthly LIS eligibility information in Part D's denominator file was used. Estimates are sensitive to the method used to classify PDE records to each plan type and LIS status. "OOP spending" includes all payments that count toward the annual OOP spending threshold. "Plan liability" includes plan payments for drugs covered by both basic and supplemental (enhanced) benefits. In addition to the major categories shown in the chart, total spending includes amounts paid by other relatively minor payers such as group health plans, workers' compensation, and charities. "Number of prescriptions" is standardized to a 30-day supply.
*"Total gross spending" includes over $5 million in manufacturer discounts for brand-name drugs filled by non-LIS enrollees during the coverage gap.

Source: MedPAC analysis of Medicare Part D PDE data and denominator file from CMS.

- In 2014, gross spending on drugs for the Part D program totaled $121.4 billion, with about 70 percent ($85.1 billion) accounted for by Medicare beneficiaries enrolled in stand-alone PDPs. Part D enrollees receiving the LIS accounted for about 50 percent ($60.3 billion) of the total. Manufacturer discounts for brand-name drugs filled by non-LIS enrollees while they were in the coverage gap accounted for 4.2 percent of the total, or 8.4 percent of the gross spending by non-LIS enrollees (data not shown).

- The number of prescriptions filled by Part D enrollees totaled 2,023 million, with about two-thirds (1,307 million) accounted for by PDP enrollees. The 32 percent of enrollees who received the LIS accounted for about 38 percent (774 million) of the total number of prescriptions filled.

- In 2014, Part D enrollees filled 4.5 prescriptions at $268 per month on average, an increase from $242 per month (for 4.5 prescriptions) in 2013 (2013 data not shown). The average monthly plan liability for PDP enrollees ($182) was considerably higher than that of MA–PD enrollees ($134), while average monthly OOP spending was similar for enrollees in both types of plans ($34 vs. $31, respectively). The average monthly low-income cost-sharing subsidy was much higher for PDP enrollees ($56) compared with MA–PD enrollees ($30).

- Average monthly spending per LIS enrollee ($427) was more than double that of a non-LIS enrollee ($196), while the average number of prescriptions filled per month by an LIS enrollee was 5.5 compared with 4.0 for a non-LIS enrollee. LIS enrollees had much lower OOP spending, on average, than non-LIS enrollees ($6 vs. $45, respectively). Part D's LIS pays for most of the cost sharing for LIS enrollees, averaging $148 per month in 2014.

Chart 10-19. Trends in Part D spending and use per enrollee, 2007–2014

	Average spending and number of prescriptions						Average annual growth rate, 2007–2014	
	2007	2010	2011	2012	2013	2014	Number	Percent
Average spending per month								
All Part D	$212	$231	$239	$235	$242	$268	$9	3.4%
By LIS status								
LIS	301	348	364	362	377	427	21	5.1
Non-LIS	156	163	167	167	179	196	7	3.3
By plan type								
PDP	239	265	274	270	275	303	11	3.4
MA−PD	151	172	178	178	185	211	10	4.9
Average number of prescriptions per month*								
All Part D	3.9	4.2	4.3	4.3	4.5	4.5	0.1	1.9
By LIS status								
LIS	4.6	5.1	5.1	5.2	5.4	5.5	0.1	2.5
Non-LIS	3.4	3.7	3.8	3.8	4.0	4.0	0.1	2.4
By plan type								
PDP	4.1	4.4	4.5	4.5	4.6	4.6	0.1	1.7
MA−PD	3.4	3.8	3.9	4.0	4.1	4.2	0.1	2.8

Note: LIS (low-income [drug] subsidy), PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]). "Spending" (gross) reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. Part D prescription drug event (PDE) records are classified into plan types based on the contract identification on each record. For purposes of classifying the PDE records by LIS status, monthly LIS eligibility information in Part D's denominator file was used. Estimates are sensitive to the method used to classify PDE records to each plan type and LIS status
*Number of prescriptions is standardized to a 30-day supply.

Source: MedPAC analysis of Medicare Part D PDE data and denominator file from CMS.

- Between 2007 and 2014, average per capita spending for Part D–covered drugs grew at an average annual rate of 3.4 percent, or by about 26 percent cumulatively. Growth in average per capita spending has fluctuated over the years, ranging from –1.5 percent between 2011 and 2012 to nearly 11 percent between 2013 and 2014 (data not shown).

- Spending growth for non-LIS enrollees was lower than that for LIS enrollees (average annual growth rate of 3.3 percent compared with 5.1 percent) during the 2007 to 2014 period, resulting in a larger difference in per capita spending between the two groups—from $145 in 2007 to about $230 per member per month in 2014. The growth in the number of prescriptions filled by LIS and non-LIS enrollees was comparable during this period.

- The growth in per capita drug spending among MA−PD enrollees exceeded that of PDP enrollees during the 2007 to 2014 period (4.9 percent compared with 3.4 percent), but the average growth was the same for both PDP and MA−PD enrollees in terms of the dollar increase ($11 and $10, respectively), and the average per capita spending for MA−PD enrollees continued to be below that of PDP enrollees by about $90.

Chart 10-20. Top 15 therapeutic classes of drugs covered under Part D, by spending and volume, 2014

Top 15 therapeutic classes by spending	Dollars		Top 15 therapeutic classes by volume	Prescriptions	
	Billions	Percent		Millions	Percent
Diabetic therapy	$14.1	11.6%	Antihypertensive therapy agents	209.7	10.4%
Antivirals	9.1	7.5	Antihyperlipidemics	203.2	10.0
Asthma/COPD therapy agents	8.3	6.8	Beta adrenergic blockers	126.5	6.3
Antihyperlipidemics	7.7	6.3	Diabetic therapy	126.1	6.2
Antipsychotics	6.2	5.1	Antidepressants	115.9	5.7
Antihypertensive therapy agents	5.5	4.6	Peptic ulcer therapy	104.4	5.2
Analgesic (anti-inflammatory/ antipyretic, non-narcotic)	4.4	3.6	Diuretics	100.1	5.0
Peptic ulcer therapy	4.4	3.6	Calcium channel blockers	87.3	4.3
Analgesics (narcotic)	4.1	3.4	Analgesics (narcotic)	84.0	4.1
Anticonvulsant	3.8	3.1	Thyroid therapy	76.9	3.8
Antineoplastic enzyme inhibitors	3.6	2.9	Anticonvulsant	73.0	3.6
Antidepressants	3.3	2.7	Asthma/COPD therapy agents	54.7	2.7
Cognitive disorder therapy (antidementia)	2.7	2.2	Antibacterial agents	51.8	2.6
Anticoagulants	2.7	2.2	Antianxiety agents	37.6	1.9
Calcium and bone metabolism regulators	2.1	1.8	Analgesic (anti-inflammatory/ antipyretic, non-narcotic)	37.2	1.8
Subtotal, top 15 classes	82.0	67.6	Subtotal, top 15 classes	1,488.3	73.6
Total, all classes	121.4	100.0	Total, all classes	2,023.1	100.0

Note: COPD (chronic obstructive pulmonary disease). "Spending" (gross) reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. "Volume" is the number of prescriptions, standardized to a 30-day supply. Therapeutic classification is based on the First DataBank Enhanced Therapeutic Classification System 1.0. Components may not sum to totals due to rounding.

Source: MedPAC analysis of Medicare Part D prescription drug event data from CMS.

- In 2014, the top 15 therapeutic classes by spending accounted for about two-thirds of the $121.4 billion spent on prescription drugs covered by Part D plans. The top 15 therapeutic classes by volume accounted for about three-quarters of the roughly 2 billion prescriptions dispensed in 2014.

- While many of the same therapeutic classes on the top-15 list appear year after year, the ranking has changed from time to time. For example, market entries of new hepatitis C therapies more than doubled Part D spending on antivirals between 2013 and 2014 (2013 data not shown). As a result, antivirals became the second highest spending category in 2014, accounting for $9.1 billion, or 7.5 percent of total spending, up from $4.3 billion, or about 4 percent of total spending in 2013.

- In 2014, spending on drugs to treat diabetes totaled $14.1 billion, an increase of about 28 percent from $11 billion in 2013, while the number of prescriptions filled for diabetic therapy totaled 126.1 million, an increase of 7.5 percent from 117.2 million in 2013 (2013 data not shown). Nearly 20 percent of the growth in spending on drugs to treat diabetes was due to the increase in the average price per standardized 30-day prescription.

(Chart continued next page)

Chart 10-20. Top 15 therapeutic classes of drugs covered under Part D, by spending and volume, 2014 (continued)

- Antianxiety agents appeared on the top-15 list by volume for the first time in 2013. The number of prescriptions for antianxiety agents totaled 37.6 million in 2014, an increase of about 7 percent from 35.2 million in 2013. Before 2013, the use of antianxiety drugs was relatively low (8.5 million in 2012). The increase in the use of antianxiety agents since 2012 reflects the addition of benzodiazepines to the list of Part D–covered drugs beginning in 2013.

- Nine therapeutic classes are among the top 15 in both spending and volume. Diabetic therapy dominates the list by spending, accounting for more than 17 percent of spending for the top 15 therapeutic classes, followed by central nervous system agents (antipsychotics, anticonvulsants, and antidepressants) and cardiovascular agents (antihyperlipidemics and antihypertensive therapy agents), each accounting for about 16 percent of spending. Cardiovascular agents (antihyperlipidemics, antihypertensive therapy agents, beta-adrenergic blockers, calcium channel blockers, and diuretics) dominate the list by volume, accounting for about 50 percent of the prescriptions in the top 15 therapeutic classes.

Chart 10-21. Drug spending and use and the characteristics of beneficiaries filling the most prescriptions, 2014

	Beneficiaries in the top 5 percent*		
		As a share of Part D	All Part D
Number of beneficiaries (in millions)	1.9	5%	40.0
Aggregate spending and use			
Gross spending (in billions)	$23.0	19	$121.4
Number of prescriptions (in millions)	277	20	1,416
Average spending per prescription	$83		$86
Per enrollee per year			
Gross spending	$12,307		$3,217
Out-of-pocket spending	$494		$394
Number of prescriptions	148		54
Demographic characteristics			
Female	66%		58%
White	72		74
LIS	78		32
PDP	74		63

Note: LIS (low-income [drug] subsidy), PDP (prescription drug plan). "Gross spending" reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. "Out-of-pocket spending" includes all payments that count toward the annual out-of-pocket spending threshold. "Number of prescriptions" is based on counts of prescription drug events (PDEs) (not standardized to a 30-day supply).
*"Beneficiaries in the top 5 percent" is based on the volume of prescriptions filled by those who filled at least one prescription in 2014. Because roughly 7 percent of Part D enrollees did not fill any prescriptions for a Part D–covered drug in 2014, "the top 5 percent" translates to about 4.7 percent of all Part D enrollees. The figures reported in the table include claims for a small number beneficiaries who did not have a record of Part D enrollment in the denominator file and claims that were missing beneficiary identification information. These claims accounted for about 9,000 prescriptions at a gross cost of over $600,000.

Source: MedPAC analysis of Medicare Part D PDE data and denominator file from CMS.

- In 2014, Part D enrollees in the top 5 percent (1.9 million) based on the number of prescriptions filled accounted for $23 billion in gross spending (19 percent of total gross spending) for drugs covered under the Part D program. The number of prescriptions filled by enrollees in the top 5 percent totaled 277 million, or 20 percent of all prescriptions filled under the Part D program.

- In 2014, Part D enrollees in the top 5 percent each filled an average of 148 prescriptions each at a gross annual cost of $12,307, compared with an average of 54 prescriptions each at a gross annual cost of $3,217 for all Part D enrollees. Compared with the difference in gross spending, the difference in beneficiary out-of-pocket spending between enrollees in the top 5 percent and all Part D enrollees was much smaller ($494 compared with $394).

- Compared with the overall Part D population, enrollees in the top 5 percent were more likely to be female. Nearly 80 percent of the enrollees in the top 5 percent received the low-income subsidy compared with 32 percent for all Part D enrollees, and 74 percent were enrolled in a stand-alone prescription drug plan compared with 63 percent for all Part D enrollees.

Chart 10-22. Part D spending and use, 2014

	Part D	Plan type	
		PDP	MA–PD
Total gross spending (billions)	$121.4	$81.9	$36.1
Total number of prescriptions (millions)	1,414	905	480
Average cost per prescription	$86	$90	$75
Total gross spending by specialty (billions)			
Primary care providers*	$68.2	$45.3	$21.2
Specialty and other providers	$53.1	$36.6	$14.9
Total number of prescriptions by specialty (millions)			
Primary care providers*	1,008.2	643.8	348.7
Specialty and other providers	405.8	261.6	131.1
Average cost per prescription			
Primary care providers*	$67.66	$70.30	$60.79
Specialty and other providers	$130.93	$140.06	$113.80

Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]). "Gross spending" reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. Numbers may not sum to totals due to lack of information about plan type for some observations. "Number of prescriptions" is a count of prescription drug events and is not adjusted for the size (number of days' supply) of the prescriptions. As such, they are not comparable with the 2014 prescription counts shown in Chart 10-15 and Chart 10-18 through Chart 10-21.
*The definition of "primary care" used here is based on the definition used for the Primary Care Incentive Payment Program and includes practitioners who have a primary Medicare specialty designation of family practice, internal medicine, pediatrics, geriatrics, nurse practitioner and clinical nurse specialist, or physician assistant.

Source: MedPAC analysis of Medicare Part D prescriber-level public use file from CMS.

- In 2014, gross spending on drugs for the Part D program totaled $121.4 billion, with about two-thirds ($81.9 billion) accounted for by Medicare beneficiaries enrolled in PDPs, according to CMS's Part D claims data summarized at the prescriber level. The number of prescriptions (not adjusted for the number of days' supply) filled by Part D enrollees totaled about 1.4 billion, with about 64 percent (905 million) accounted for by PDP enrollees. The cost per prescription dispensed averaged $86 across all Part D enrollees. The average cost per prescription is higher among PDP enrollees ($90) compared with that of MA–PD enrollees ($75).

- Prescriptions written by primary care providers accounted for about 56 percent ($68.2 billion) of gross spending and 71 percent (1,008.2 million) of prescriptions dispensed under the Part D program. The shares of spending and prescriptions written by primary care providers were lower in PDPs (about 55 percent of gross spending and about 71 percent of prescriptions) than in MA–PDs (about 59 percent of gross spending and about 73 percent of prescriptions).

- The average cost per prescription dispensed was lower among primary care providers (about $68) compared with specialty and other providers (about $131). The cost per prescription dispensed for PDP enrollees was higher than that of MA–PD enrollees regardless of the provider type (primary care vs. specialty and other providers).

Chart 10-23. Part D patterns of prescribing by provider type, 2014

	Part D	Provider type: Primary care*	Provider type: Specialty/others
Number of individual prescribers (thousands)	1,073	440	633
Percent of all individual prescribers		41%	59%
Average beneficiary (patient) count	148	190	118
Average per beneficiary			
Gross spending	$666	$748	$606
Number of prescriptions	6.5	9.3	4.4
Prescribers in the top 1 percent based on number of prescriptions filled per beneficiary			
Number of individual prescribers	9,367	7,727	1,640
Percent of all individual prescribers		82%	18%
Total gross spending (billions)	$8.8	$7.5	$1.3
Percent of total gross spending (by column)	7%	11%	2%
Total number of prescriptions (millions)	137	120	17
Percent of all prescriptions filled	10%	12%	4%
Average per beneficiary			
Gross spending	$3,575	$3,253	$5,092
Number of prescriptions	44	44	44

Note: "Gross spending" reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. Numbers may not sum to totals due to rounding. "Number of prescriptions" is a count of prescription drug events and is not adjusted for the size (number of days' supply) of the prescriptions. As such, they are not comparable with the 2014 prescription counts shown in Chart 10-15 and Chart 10-18 through Chart 10-21.
*The definition of "primary care" used here is based on the definition used for the Primary Care Incentive Payment Program and includes practitioners who have a primary Medicare specialty designation of family practice, internal medicine, pediatrics, geriatrics, nurse practitioner and clinical nurse specialist, or physician assistant.

Source: MedPAC analysis of Medicare Part D prescriber-level public use file from CMS.

- In 2014, over 1 million individual providers wrote prescriptions for Medicare beneficiaries that were filled under Part D. Of those, about 41 percent were primary care providers and 59 percent were specialty or other types of providers.
- The average count of (Medicare-only) beneficiaries (patients) was higher among primary care providers compared with specialty and other types of providers—190 beneficiaries versus 118 beneficiaries.

(Chart continued next page)

Chart 10-23. Part D patterns of prescribing by provider type, 2014 (continued)

- On a per beneficiary basis, average gross spending for Part D prescriptions was higher for prescriptions written by primary care providers ($748) compared with the average for specialty and other providers ($606). Primary care providers also wrote more prescriptions per beneficiary, on average, than specialty and other providers: 9.3 compared with 4.4.

- More than 9,300 prescribers were among the top 1 percent of all prescribers, as ranked by the average number of Part D prescriptions filled per beneficiary in 2014. Of those prescribers, 82 percent were primary care providers and 18 percent were specialty and other providers.

- The top 1 percent of prescribers accounted for 7 percent of total gross spending and 10 percent of all prescriptions filled. Among primary care prescribers, results were more concentrated: The top 1 percent of prescribers accounted for 11 percent of gross spending and 12 percent of all prescriptions.

- Among the prescriptions that were written by prescribers in the top 1 percent of all prescribers in 2014, per beneficiary Part D spending averaged nearly $3,600 for 44 prescriptions filled.

Chart 10-24. Part D patterns of prescribing for selected specialties, 2014

	Number of individual Part D prescribers (thousands)	Share of all Part D prescribers (percent)	Average per beneficiary	
			Gross spending (in dollars)	Number of prescriptions
All Part D	1,073.0	100%	$666	6.5
All specialty/others	632.8	59	606	4.4
Selected specialties:				
Psychiatry	25.9	4	1,445	13.3
Cardiology	22.8	4	628	9.1
Ophthalmology	19.6	3	380	4.2
Psychiatry & Neurology	13.6	2	1,262	10.9
Neurology	13.2	2	2,525	7.8
Gastroenterology	12.9	2	1,798	3.9
Urology	10.7	2	359	4.1
Pulmonary disease	9.0	1	1,829	7.1
Nephrology	8.1	1	1,450	9.6
Hematology & Oncology	8.0	1	4,946	6.4
Endocrinology	5.4	1	1,710	8.6
Infectious disease	5.0	1	5,565	9.8
Rheumatology	4.4	1	2,193	8.6
Medical oncology	2.8	<0.5	4,683	6.1

Note: "Gross spending" reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. "Number of prescriptions" is a count of prescription drug events and is not adjusted for the size (number of days' supply) of the prescriptions. As such, they are not comparable with the 2014 prescription counts shown in Chart 10-15 and Chart 10-18 through Chart 10-21.

Source: MedPAC analysis of Medicare Part D prescriber-level public use file from CMS.

- Psychiatrists and cardiologists were among the most numerous types of specialty care prescribers, each making up 4 percent of all Part D prescribers in 2014. Ophthalmologists, psychiatrist/neurologists, neurologists, gastroenterologists, and urologists each made up another 2 percent to 3 percent of Part D prescribers.

- Psychiatrists wrote an average of 13.3 prescriptions per beneficiary, with an average of $1,445 in gross spending per patient. Those are more than double the overall Part D averages of 6.5 prescriptions and $666 in average gross spending per beneficiary. Other specialties with comparatively high average gross spending per beneficiary include psychiatry/neurology, neurology, gastroenterology, pulmonary disease, nephrology, hematology/oncology, endocrinology, infectious disease, rheumatology, and medical oncology.

(Chart continued next page)

Chart 10-24. Part D patterns of prescribing for selected specialties, 2014 (continued)

- Other specialties such as ophthalmology and urology had lower average gross spending per beneficiary. Cardiologists had average gross spending per beneficiary similar to that of all Part D prescribers ($628 vs. $666, respectively), but wrote an average of 9.1 prescriptions per beneficiary—considerably higher than the average of 6.5 per beneficiary for all Part D prescribers. This distinction reflects the widespread availability of generic cardiology medications.

SECTION 11

Other services

Dialysis
Hospice
Clinical laboratory

Chart 11-1. Number of dialysis facilities is growing, and most facilities are for profit and freestanding

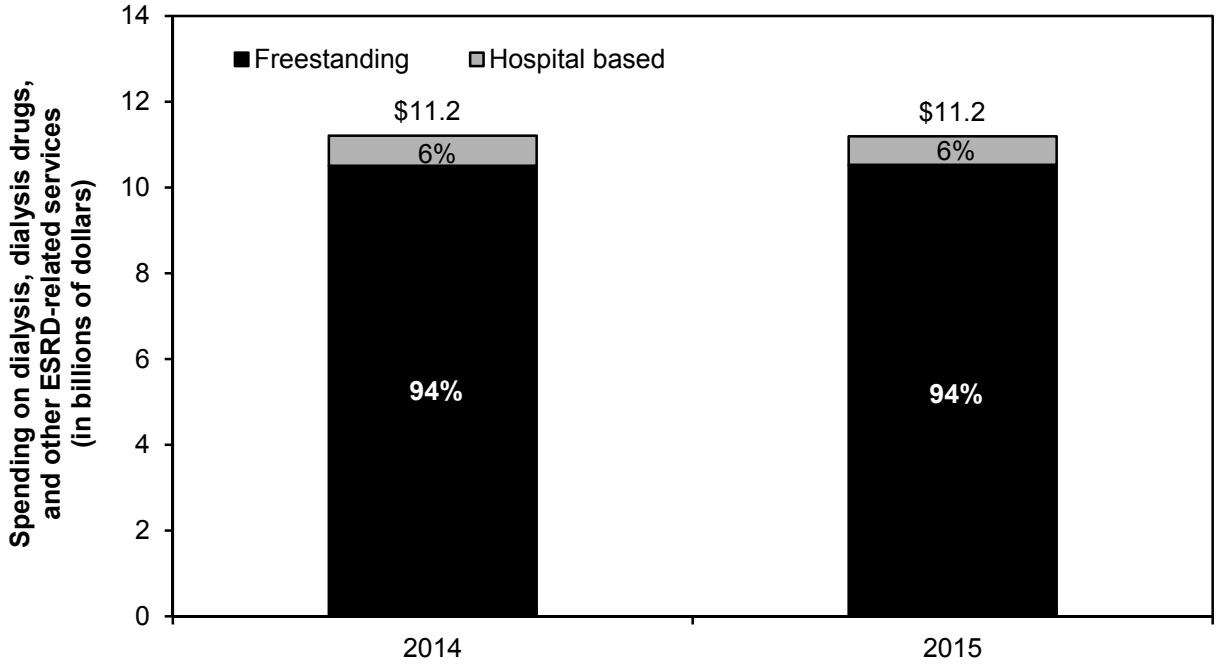
	2016	Average annual percent change 2011–2016	2015–2016
Total number of:			
Dialysis facilities	6,745	3%	4%
Hemodialysis stations	117,198	3	3
Mean number of hemodialysis stations per facility	17	–0.3	–0.8
	Percent of total		
Hospital based	6%	–5	–1
Freestanding	94	4	5
Urban	82	4	5
Rural, micropolitan	11	1	2
Rural, adjacent to urban	5	2	2
Rural, not adjacent to urban	3	3	4
Frontier	0.5	2	0
For profit	88	4	5
Nonprofit	12	–2	–0.4

Note: "Nonprofit" includes facilities designated as either nonprofit or government. "Average annual percent change" is based on comparing 2011, 2015, and 2016 end-of-year files. Components may not sum to totals due to rounding.

Source: Compiled by MedPAC from the 2011, 2015, and 2016 CMS Dialysis Compare end-of-year files.

- Between 2011 and 2016, the number of facilities has increased 3 percent per year. The average size of a facility has remained relatively constant, averaging about 17 dialysis treatment stations per facility (17.7 stations in 2011, 17.5 stations in 2015, and 17.4 stations in 2016).
- Since 2011, facilities' capacity to provide care—as measured by dialysis treatment stations—also grew 3 percent annually. Capacity at urban facilities grew by 3 percent per year while capacity at rural facilities grew at a rate of 2 percent per year (data not shown).
- Since 2011, the number of freestanding and for-profit facilities increased, while hospital-based and nonprofit facilities decreased. Freestanding facilities increased from 90 percent to 94 percent of all facilities, and for-profit facilities increased from 84 percent to 88 percent of all facilities.

Chart 11-2. Medicare spending for outpatient dialysis services furnished by freestanding and hospital-based dialysis facilities, 2014 and 2015



Note: ESRD (end-stage renal disease).

Source: Compiled by MedPAC from the 2014 and 2015 institutional outpatient files from CMS.

- In 2015, total spending for dialysis, dialysis drugs, and ESRD-related clinical laboratory tests was $11.2 billion. In 2015, Medicare paid all facilities under a modernized prospective payment system that includes in the payment bundle certain dialysis drugs and ESRD-related clinical laboratory tests that were separately paid before 2011.
- Between 2014 and 2015, total ESRD expenditures remained relatively flat at $11.2 billion in both years.
- Freestanding dialysis facilities treated most dialysis beneficiaries and accounted for 94 percent of expenditures in 2015.

Chart 11-3. The ESRD population is growing, and most ESRD patients undergo dialysis

	2004		2010		2014	
	Patients (thousands)	Percent	Patients (thousands)	Percent	Patients (thousands)	Percent
Total	466.0	100%	591.8	100%	678.4	100%
Dialysis	331.2	71	414.4	70	477.5	70
In-center hemodialysis	300.3	64	373.5	63	420.0	62
Home hemodialysis*	1.8	0.4	6.5	1	8.6	1
Peritoneal dialysis*	27.8	6	32.7	6	46.6	7
Unknown	1.3	0.3	1.9	0.3	2.3	0.3
Functioning graft and kidney transplants	134.8	29	177.4	30	200.9	30

Note: ESRD (end-stage renal disease). Totals may not equal sum of components due to rounding. Data include both Medicare and non-Medicare patients.
*Home dialysis methods.

Source: Compiled by MedPAC from the United States Renal Data System.

- Persons with ESRD require either dialysis or a kidney transplant to maintain life. The total number of ESRD patients increased by 4 percent annually between 2004 and 2014.
- In hemodialysis, a patient's blood flows through a machine with a special filter that removes wastes and extra fluids. In peritoneal dialysis, the patient's blood is cleaned by using the lining of his or her abdomen as a filter. Peritoneal dialysis is the most common form of home dialysis.
- Most ESRD patients undergo hemodialysis administered in a dialysis facility three times a week. Between 2004 and 2014, the total number of in-center hemodialysis patients grew by 3 percent annually while the total number of peritoneal dialysis patients increased by 5 percent annually. Although a smaller proportion of all dialysis patients undergo home hemodialysis, the number of these patients grew 17 percent per year during this period.
- Functioning graft patients are patients who have had a successful kidney transplant. Patients undergoing kidney transplant may receive either a living kidney or a cadaveric kidney donation. In 2014, 31 percent of transplanted kidneys were from living donors and the remainder were from cadaver donors (data not shown).

Chart 11-4. Asian Americans and Hispanics are among the fastest growing segments of the ESRD population

	Percent of total in 2014	Average annual percent change 2009–2014
Total (*N* = 678,383)	100%	4%
Age (years)		
0–17	1	0.1
18–44	16	1
45–64	44	3
65–79	31	6
80+	9	4
Sex		
Male	58	4
Female	42	3
Race/ethnicity		
White	61	4
African American	31	3
Native American	1	2
Asian American	6	6
Hispanic	17	5
Non-Hispanic	83	3
Underlying cause of ESRD		
Diabetes	38	4
Hypertension	25	4
Glomerulonephritis	16	2
Other causes	21	3

Note: ESRD (end-stage renal disease). Totals may not equal sum of the components due to rounding. ESRD patients include those who undergo maintenance dialysis and those who have a functioning kidney transplant.

Source: Compiled by MedPAC from the United States Renal Data System.

- Among ESRD patients, 40 percent are over age 65. About 60 percent are White.
- Diabetes is the most common cause of renal failure.
- The number of ESRD patients increased by 4 percent annually between 2009 and 2014. Among the fastest growing groups of patients are Asian Americans and Hispanics.

Chart 11-5. Characteristics of Medicare fee-for-service dialysis patients, 2015

	Percent of all FFS dialysis patients
Age (years)	
Under 45	11%
45–64	38
65–74	27
75–84	18
85+	6
Sex	
Male	55
Female	45
Race	
White	48
African American	36
All other	17
Residence	
Urban county	82
Rural county, micropolitan	11
Rural county, adjacent to urban	5
Rural county, not adjacent to urban	3
Frontier county	1
Prescription drug coverage status	
Enrolled in Part D plan or other source of creditable drug coverage	90
LIS	58
Dually eligible for Medicare and Medicaid	48

Note: FFS (fee-for-service), LIS (low-income [drug] subsidy). Urban counties contain a core area with 50,000 or more people, rural micropolitan counties contain at least one cluster of at least 10,000 and fewer than 50,000 people, rural counties adjacent to urban areas do not have a city of 10,000 people in the county, and rural counties not adjacent to urban areas do not have a city of 10,000 people. Frontier counties are counties with six or fewer people per square mile. Totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of dialysis claims files and denominator files from CMS.

- Compared with all Medicare patients, FFS dialysis patients are disproportionately younger and African American (see Chart 2-5).
- In 2015, nearly 20 percent of FFS dialysis patients resided in a rural county.
- Nearly half of all dialysis patients were dually eligible for Medicare and Medicaid services.
- Ninety percent of FFS dialysis patients were enrolled in Part D plans or had other sources of creditable drug coverage.

Chart 11-6. Aggregate margins varied by type of freestanding dialysis facility, 2015

Type of facility	Share of freestanding dialysis treatments	Aggregate margin
All facilities	100%	0.4%
Urban	87	1.3
Rural	13	–5.1
Treatment volume (quintile)		
Lowest	20	–16.9
Second	20	–8.8
Third	20	–2.8
Fourth	20	2.3
Highest	20	6.5

Note: Margins include payments and costs for composite rate services, injectable drugs, and other end-stage renal disease–related services.

Source: Compiled by MedPAC from 2015 cost reports and the 2015 institutional outpatient file from CMS.

- For 2015, the aggregate Medicare margin for composite rate services and injectable drugs was 0.4 percent.
- Generally, freestanding dialysis facilities' margins vary by the size of the facility; facilities with greater treatment volume have higher margins on average. Differences in capacity and treatment volume explain some of the differences observed between the margins of urban and rural facilities. Urban facilities are larger on average than rural facilities with respect to the number of dialysis treatment stations and Medicare treatments provided. Some rural facilities have benefited from the low-volume adjustment that is included in the new end-stage renal disease payment method that began in 2011.

Chart 11-7. Number of hospice users and hospice spending increased while average length of stay declined slightly in 2015

	2000	2014	2015	Average annual change, 2000–2014	Change, 2014–2015
Beneficiaries in hospice (in millions)	0.534	1.324	1.381	6.7%	4.3%
Medicare payments (in billions)	$2.9	$15.1	$15.9	12.4%	5.5%
Average length of stay among decedents (in days)	53.5	88.2	86.7	3.6%	–1.7%
Median length of stay among decedents (in days)	17	17	17	0 days*	0 days*

Note: Average length of stay is calculated for decedents who used hospice at the time of death or before death and reflects the total number of days the decedent was enrolled in the Medicare hospice benefit during his/her lifetime. Due to rounding, the percentage change displayed in the chart may not equal the percentage change calculated using the yearly data displayed in the chart.
*This figure reflects the raw change rather than the percentage change.

Source: MedPAC analysis of the denominator file, the Medicare Beneficiary Database, and the 100 percent hospice claims standard analytic file from CMS.

- The number of Medicare beneficiaries receiving hospice services continued to grow in 2015, suggesting that access to hospice care has increased.
- Average length of stay declined slightly between 2014 and 2015 because of a decrease in length of stay among patients with the longest stays.
- Total Medicare payments to hospices were about $15.9 billion in 2015, about 5.5 percent higher than the prior year.

Chart 11-8. Hospice use increased across beneficiary groups from 2000 to 2015

	Share of decedents using hospice			Average annual percentage point change	Percentage point change
	2000	2014	2015	2000–2014	2014–2015
All	22.9%	47.9%	48.6%	1.8	0.7%
FFS beneficiaries	21.5	46.8	47.6	1.8	0.8
MA beneficiaries	30.9	50.9	51.1	1.4	0.2
Dual eligibles	17.5	42.6	43.1	1.8	0.5
Non–dual eligibles	24.5	49.6	50.3	1.8	0.7
Age (years)					
<65	17.0	29.5	29.9	0.9	0.4
65–84	24.7	45.7	46.1	1.5	0.4
85+	21.4	56.1	57.1	2.5	1.0
Race/ethnicity					
White	23.8	49.8	50.5	1.9	0.7
Minority	17.3	37.7	38.4	1.5	0.7
Gender					
Male	22.4	43.9	44.5	1.5	0.6
Female	23.3	51.5	52.3	2.0	0.8
Beneficiary location					
Urban	24.2	49.1	49.7	1.8	0.6
Micropolitan	18.3	44.1	44.9	1.8	0.8
Rural, adjacent to urban	17.5	43.4	44.4	1.9	1.0
Rural, nonadjacent to urban	15.0	38.1	38.8	1.7	0.7
Frontier	13.1	32.5	33.8	1.4	1.3

Note: FFS (fee-for-service), MA (Medicare Advantage). "Beneficiary location" refers to the beneficiary's county of residence. Urban, micropolitan, and rural designations are based on the urban influence codes. This chart uses the 2013 urban influence code definition. In prior data books, the chart has used the 2003 urban influence code definitions. The frontier category is defined as population density equal to or less than six persons per square mile.

Source: MedPAC analysis of data from the denominator file and the Medicare Beneficiary Database from CMS.

- Hospice use grew in all beneficiary groups in 2015, continuing the trend of a growing proportion of beneficiaries using hospice at the end of life.
- Despite this growth, hospice use continued to vary by demographic and beneficiary characteristics. Medicare decedents who were older, White, female, MA enrollees, not dual eligible, or living in an urban area were more likely to use hospice than their respective counterparts.

Chart 11-9. Number of Medicare-participating hospices has increased due to growth in for-profit hospices

	2000	2013	2014	2015
All hospices	2,255	3,925	4,092	4,199
For profit	672	2,418	2,588	2,715
Nonprofit	1,324	1,309	1,305	1,293
Government	257	198	199	185
Freestanding	1,069	2,844	3,024	3,138
Hospital based	785	553	535	523
Home health based	378	503	510	514
SNF based	22	25	23	24
Urban	1,455	2,932	3,102	3,235
Rural	757	945	944	920

Note: SNF (skilled nursing facility). Numbers may not sum to totals because of missing data for a small number of providers. The rural and urban definitions in this chart are based on updated definitions of the core-based statistical areas (which rely on data from the 2010 census). In prior data books, this chart has used rural and urban definitions based on the 2000 census.

Source: MedPAC analysis of Medicare cost reports, Provider of Services file, and the standard analytic file of hospice claims from CMS.

- There were nearly 4,200 Medicare-participating hospices in 2015. Most of them were for-profit hospices.
- Between 2000 and 2015, the number of Medicare-participating hospices grew by more than 1,900 providers. For-profit hospices accounted almost entirely for that growth.
- Growth in the number of providers has occurred predominantly among freestanding and home health–based providers. The number of hospital-based providers has declined.
- The number of hospices in rural areas declined between 2014 and 2015 by about 2.5 percent.

Chart 11-10. Hospice cases and length of stay, by diagnosis, 2015

Diagnosis	Share of total cases	Percent of cases with length of stay greater than 180 days
Cancer	28%	9%
Alzheimer's, nervous system disorders, organic psychosis	22	34
Circulatory, except heart failure	18	25
Heart failure	10	21
Respiratory disease	6	14
Chronic airway obstruction, NOS	5	27
Other	5	14
Genitourinary disease	3	8
Digestive disease	2	9
All	100	20

Note: NOS (not otherwise specified). Cases include all patients who received hospice care in 2015, not just decedents. "Diagnosis" reflects primary diagnosis on the beneficiary's last hospice claim. The share of cases with length of stay greater than 180 days reflects the share of hospice patients who received hospice care in 2015 whose lifetime length of hospice stay exceeded 180 days at the end of 2015 (or at the time of death or discharge in 2015 if the beneficiary was not enrolled in hospice at the end of 2015). "Share of total cases" column may not sum to 100 percent because of rounding.

Source: MedPAC analysis of 100 percent hospice claims standard analytic file from CMS and the Medicare Beneficiary Database.

- In 2015, the most common primary diagnoses among Medicare hospice patients were cancer (28 percent), neurological conditions (Alzheimer's disease, nervous system disorders, and organic psychosis) (22 percent of cases), circulatory conditions other than heart failure (18 percent), and heart failure (10 percent).

- Length of stay varies by diagnosis. One-quarter or more of hospice patients in 2015 with Alzheimer's disease and other nervous system disorders, chronic airway obstruction, and circulatory conditions (other than heart failure) had lengths of stay exceeding 180 days. Long hospice stays were least common among beneficiaries with genitourinary disease, digestive disease, and cancer.

Chart 11-11. Hospice length of stay among decedents decreased slightly in 2015 due to a decrease in length of stay among patients with the longest stays

Year	Average length of stay (in days)	Percentiles of length of stay (in days)				
		10th	25th	50th	75th	90th
2000	53.5	3	6	17	56	141
2001	54.9	3	6	17	57	146
2002	58.2	3	6	17	59	157
2003	62.2	3	6	17	62	170
2004	66.0	3	5	17	63	180
2005	71.3	3	5	17	67	194
2006	75.6	3	5	17	70	208
2007	79.7	3	5	17	73	222
2008	83.4	2	5	17	75	235
2009	84.4	3	5	17	76	237
2010	86.1	3	5	17	77	240
2011	86.3	2	5	17	78	240
2012	88.0	2	5	18	80	246
2013	87.8	2	5	17	79	246
2014	88.2	2	5	17	79	247
2015	86.7	2	5	17	80	240

Note: Data reflect hospice length of stay for Medicare decedents who used hospice at the time of death or before death. "Length of stay" reflects the total number of days the decedent was enrolled in the Medicare hospice benefit during his or her lifetime.

Source: MedPAC analysis of the denominator file and the Medicare Beneficiary Database from CMS.

- Average length of stay among decedents, which grew from 53.5 days in 2000 to 88.2 days in 2014, declined slightly in 2015 to 86.7 days.
- The decrease in average length of stay in 2015 was a result of a decrease in length of stay among patients with the longest stays. The 90th percentile in length of stay decreased from 247 days in 2014 to 240 days in 2015. In prior years, most growth in hospice length of stay occurred among decedents with the longest stays. Between 2000 and 2014, the 90th percentile in length of stay grew from 141 days to 247 days.
- Short stays in hospice have changed little since 2000. The median length of stay in hospice was about 17 days from 2000 to 2015. Hospice length of stay at the 25th percentile has been 5 or 6 days and at the 10th percentile has been 2 or 3 days since 2000.

Chart 11-12. Hospice length of stay among decedents, by beneficiary and hospice characteristics, 2015

	Average length of stay (in days)	Length of stay percentiles (in days)		
		10th	50th	90th
Beneficiary				
Diagnosis				
Cancer	53	3	18	131
Neurological	147	3	33	437
Heart/circulatory	91	2	15	267
COPD	116	2	24	339
Other	51	2	8	134
Site of service				
Home	89	4	26	233
Nursing facility	105	3	20	308
Assisted living facility	152	5	51	432
Hospice				
For profit	105	3	21	304
Nonprofit	65	2	13	176
Freestanding	89	2	17	248
Home health based	69	2	15	187
Hospital based	55	2	12	145

Note: COPD (chronic obstructive pulmonary disease). Average length of stay is calculated for Medicare beneficiaries who died in 2015 and used hospice that year, and it reflects the total number of days the decedent was enrolled in the Medicare hospice benefit during his or her lifetime. "Diagnosis" reflects primary diagnosis on the beneficiary's last hospice claim.

Source: MedPAC analysis of 100 percent hospice claims standard analytic file data, Medicare Beneficiary Database, Medicare hospice cost reports, and Provider of Services file data from CMS.

- Hospice average length of stay among decedents varies by both beneficiary and provider characteristics. Most of this variation reflects differences in length of stay among patients with the longest stays (i.e., at the 90th percentile). Length of stay varies much less for patients with shorter stays (i.e., at the 10th or 50th percentile).
- Beneficiaries with neurological conditions and COPD have the longest stays while beneficiaries with cancer have the shortest stays on average.
- Beneficiaries who receive hospice services in assisted living facilities have longer stays on average than beneficiaries who receive care at home or at a nursing facility.
- For-profit and freestanding hospices have longer average lengths of stay than nonprofit and provider-based (home health– and hospital-based) hospices.

Chart 11-13. Nearly 60 percent of Medicare hospice spending in 2015 was for patients with stays exceeding 180 days

	Medicare hospice spending, 2015 (in billions)
All hospice users in 2015	$15.9
Beneficiaries with LOS > 180 days	9.2
Days 1–180	3.0
Days 181–365	2.9
Days 366+	3.3
Beneficiaries with LOS ≤ 180 days	6.5

Note: LOS (length of stay). LOS reflects the beneficiary's lifetime LOS as of the end of 2015 (or at the time of death or discharge in 2015 if the beneficiary was not enrolled in hospice at the end of 2015). All spending reflected in the chart occurred only in 2015. Break-out groups do not sum to total because of rounding and because they exclude about $0.1 billion in payments to hospices for physician visits.

Source: MedPAC analysis of 100 percent hospice claims standard analytic file data and the common Medicare enrollment file from CMS.

- In 2015, Medicare hospice spending on patients with stays exceeding 180 days was more than $9 billion, nearly 60 percent of all Medicare hospice spending that year.
- About $3.3 billion, or about 20 percent, of Medicare hospice spending in 2015 was on hospice care for patients who had already received at least one year of hospice.

Chart 11-14. Hospice aggregate Medicare margins, 2008–2014

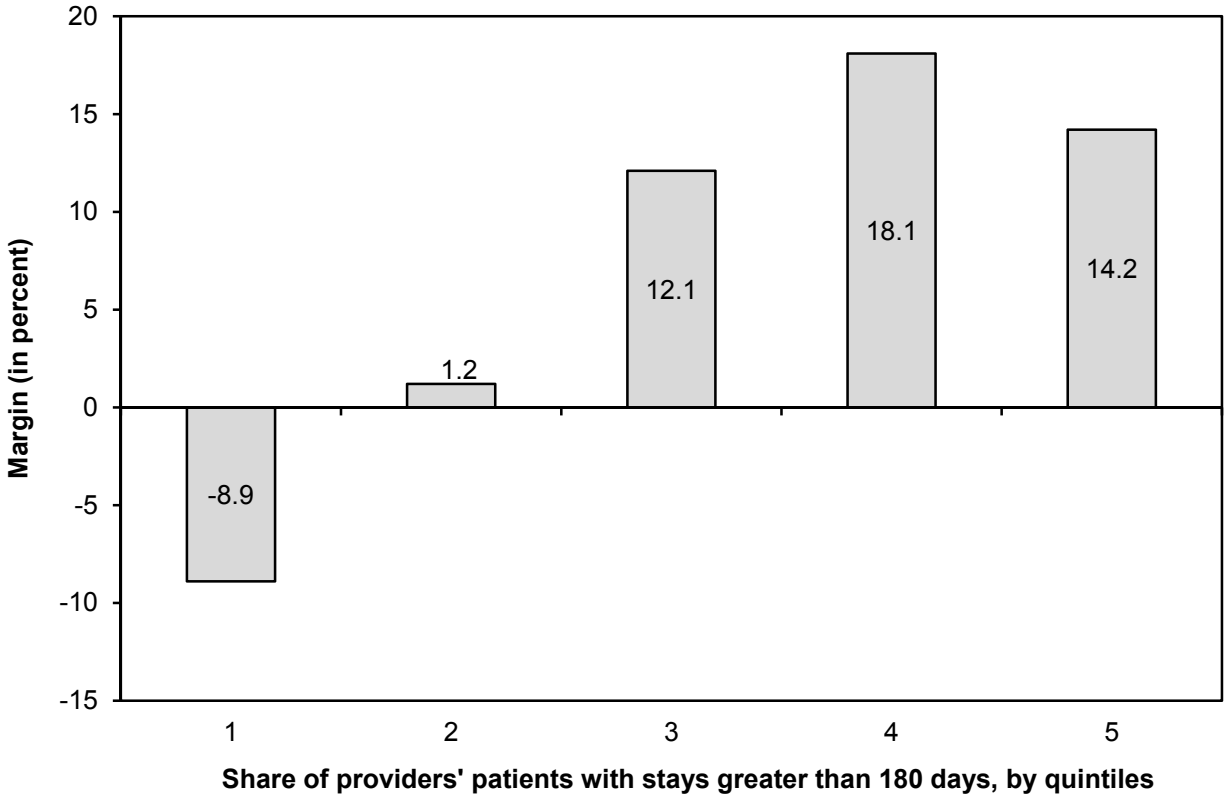
	Share of hospices (2014)	Medicare margin				
		2008	2011	2012	2013	2014
All	100%	5.3%	8.7%	10.0%	8.5%	8.2%
Freestanding	74	8.3	11.8	13.3	12.0	11.5
Home health based	12	3.2	6.1	5.5	2.5	3.8
Hospital based	13	–12.4	–17.0	–17.1	–17.4	–20.3
For profit	63	10.2	14.7	15.4	14.7	14.5
Nonprofit	32	0.5	2.3	3.6	0.9	–0.7
Government	5	N/A	N/A	N/A	N/A	N/A
Urban	77	5.7	9.0	10.3	8.8	8.7
Rural	23	1.9	5.2	7.3	5.9	3.6
Below cap	87.8	5.7	8.9	10.3	8.6	8.4
Above cap	12.2	1.2	4.1	5.2	7.0	6.0
Above cap (including cap overpayments)	12.2	19.1	18.4	21.3	20.1	18.8

Note: N/A (not available). Margins for all provider categories exclude overpayments to above-cap hospices except where specifically indicated. Margins are calculated based on Medicare-allowable, reimbursable costs. The percentage of freestanding and provider-based (home health–based and hospital-based) hospices does not sum to 100 percent because skilled nursing facility–based hospices are not broken out separately. The share of hospices may not sum to 100 percent for other categories due to rounding.

Source: MedPAC analysis of Medicare hospice cost reports, 100 percent hospice claims standard analytic file, and Medicare Provider of Services data from CMS.

- The aggregate Medicare margin was 8.2 percent in 2014, down slightly from 8.5 percent in 2013.
- Margin estimates do not include nonreimbursable costs associated with bereavement services and volunteers (which, if included, would reduce margins by at most 1.4 percentage points and 0.3 percentage point, respectively). Margins also do not include the costs and revenues associated with fundraising.
- Freestanding hospices had higher margins than provider-based (home health– and hospital-based) hospices, in part, because of differences in their indirect costs. Provider-based hospices' indirect costs are higher than those of freestanding providers and are likely inflated because of the allocation of overhead from the parent provider.
- In 2014, for-profit hospice margins were strong at 14.5 percent. The aggregate margin for nonprofit hospices was –0.7 percent, but the subset of nonprofit hospices that were freestanding had a higher margin, 3.4 percent (latter not shown in chart).
- Hospices that exceeded the cap (Medicare's aggregate average per beneficiary payment limit) had a margin of nearly 19 percent before the return of the cap overpayments.

Chart 11-15. Medicare margins were higher among hospices with more long stays, 2014



Note: Margins exclude overpayments to hospices that exceeded the cap on the average annual Medicare payment per beneficiary. Margins are calculated based on Medicare-allowable, reimbursable costs. For hospice providers in the lowest (first) quintile, the share of stays greater than 180 days was less than 12.3 percent; it was between 12.3 percent and 18.8 percent in the second quintile; it was between 18.8 percent and 25.6 percent in the third quintile; it was between 25.6 percent and 33.3 percent in the fourth quintile; and it was greater than 33.3 percent in the highest (fifth) quintile.

Source: MedPAC analysis of Medicare hospice cost reports and 100 percent hospice claims standard analytic file from CMS.

- Medicare's per diem payment system for hospice has provided an incentive for longer lengths of stay.
- Hospices with more patients who had stays greater than 180 days generally had higher margins in 2014. Hospices in the lowest length-of-stay quintile had a margin of –8.9 percent compared with an 18.1 percent margin for hospices in the second highest length-of-stay quintile.
- Margins were somewhat lower in the highest length-of-stay quintile (14.2 percent) compared with the second highest quintile (18.1 percent) because some hospices in the highest quintile exceeded Medicare's aggregate payment cap and were required to repay the overage. Hospices exceeding the cap had a margin of nearly 19 percent before the return of overpayments (see Chart 11-14).

Chart 11-16. Hospices that exceeded Medicare's annual payment cap, selected years

	2002	2011	2012	2013	2014
Share of hospices exceeding the cap	2.6%	9.8%	11.0%	10.7%	12.2%
Average payments over the cap per hospice exceeding the cap (in thousands)	$470	$424	$510	$460	$370
Payments over the cap as a percent of overall Medicare hospice spending	0.6%	1.1%	1.4%	1.3%	1.2%

Note: The cap year is defined as the period beginning November 1 and ending October 31 of the following year. These estimates of hospices that exceeded the aggregate cap are based on the Commission's analyses. While the estimates are intended to approximate those of the Medicare claims-processing contractors, they are not necessarily identical to the contractors' estimates because of differences in available data and methodology.

Source: MedPAC analysis of 100 percent hospice claims standard analytic file data, Medicare hospice cost reports, Provider of Services file data from CMS, and CMS Providing Data Quickly system. Data on total spending for each fiscal year are from the CMS Office of the Actuary.

- The share of hospices exceeding the aggregate cap increased from 10.7 percent in 2013 to 12.2 percent in 2014.
- Medicare payments over the cap represented 1.2 percent of total Medicare hospice spending in 2014.
- On average, above-cap hospices exceeded the cap by about $370,000 per provider in 2014, down from about $460,000 per provider in 2013.

Chart 11-17. Hospice live-discharge rates, 2013–2015

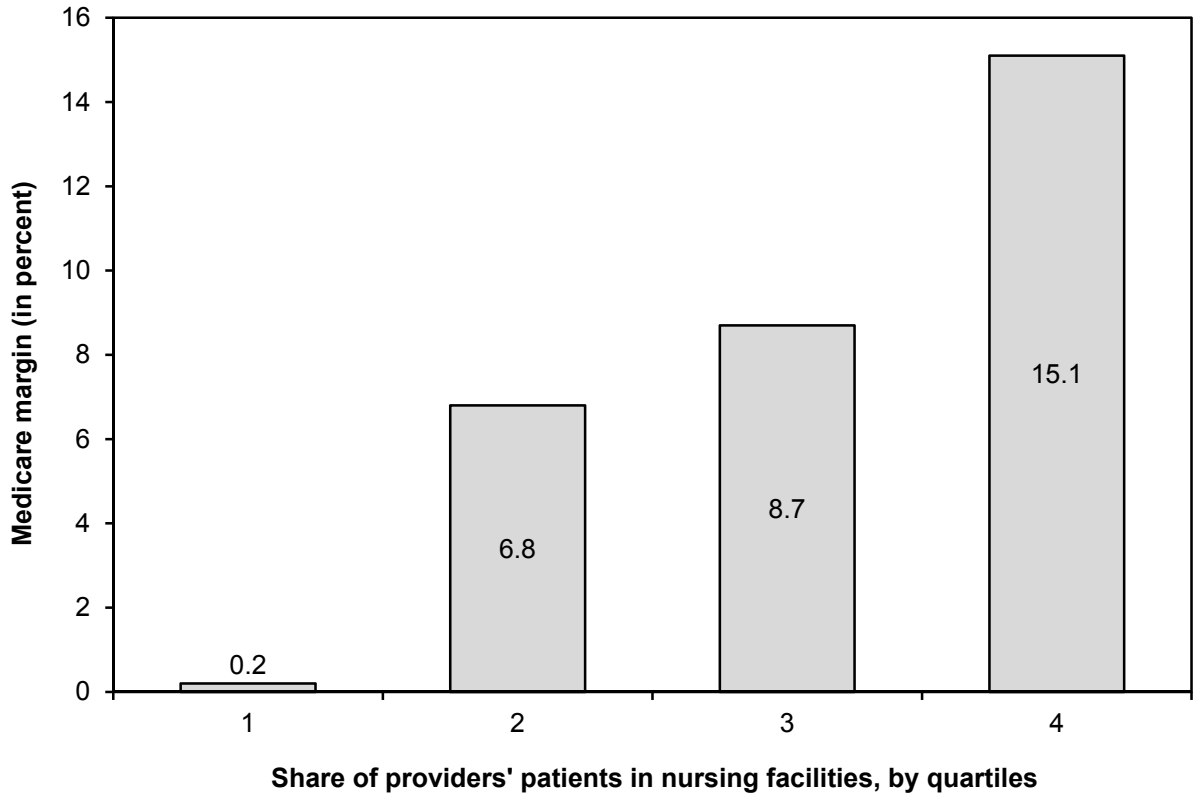
	2013	2014	2015
Live discharge as a share of all discharges, by reason for live discharge			
All live discharges	18.4%	17.2%	16.7%
No longer terminally ill	7.8	7.3	6.9
Beneficiary revocation	7.3	6.6	6.3
Transfer hospice providers	2.0	2.0	2.1
Move out of service area	0.9	0.9	1.0
Discharge for cause	0.4	0.3	0.3
Providers' overall rate of live discharge as a share of all discharges, by percentile			
10th percentile	9.3	8.5	8.4
25th percentile	13.2	12.3	12.0
50th percentile	19.4	18.7	18.4
75th percentile	30.2	30.2	29.6
90th percentile	47.2	50.0	50.0

Note: Percentages may not sum to 100 due to rounding.

Source: MedPAC analysis of 100 percent hospice claims standard analytic file.

- The overall live discharge rate declined from 18.4 percent in 2013 to 17.2 percent in 2014 to 16.7 percent in 2015.
- Between 2013 and 2015, the decline in the overall rate of live discharge reflects a decline in the rate of beneficiaries discharged alive because they are no longer terminally ill and a decline in the rate of beneficiaries revoking the hospice benefit.
- Live discharges accounted for half or more of total discharges among the 10 percent of hospices with the highest live-discharge rates (i.e., the 90th percentile) in 2015.

Chart 11-18. Margins were higher among hospices with a greater share of their patients in nursing facilities, 2014

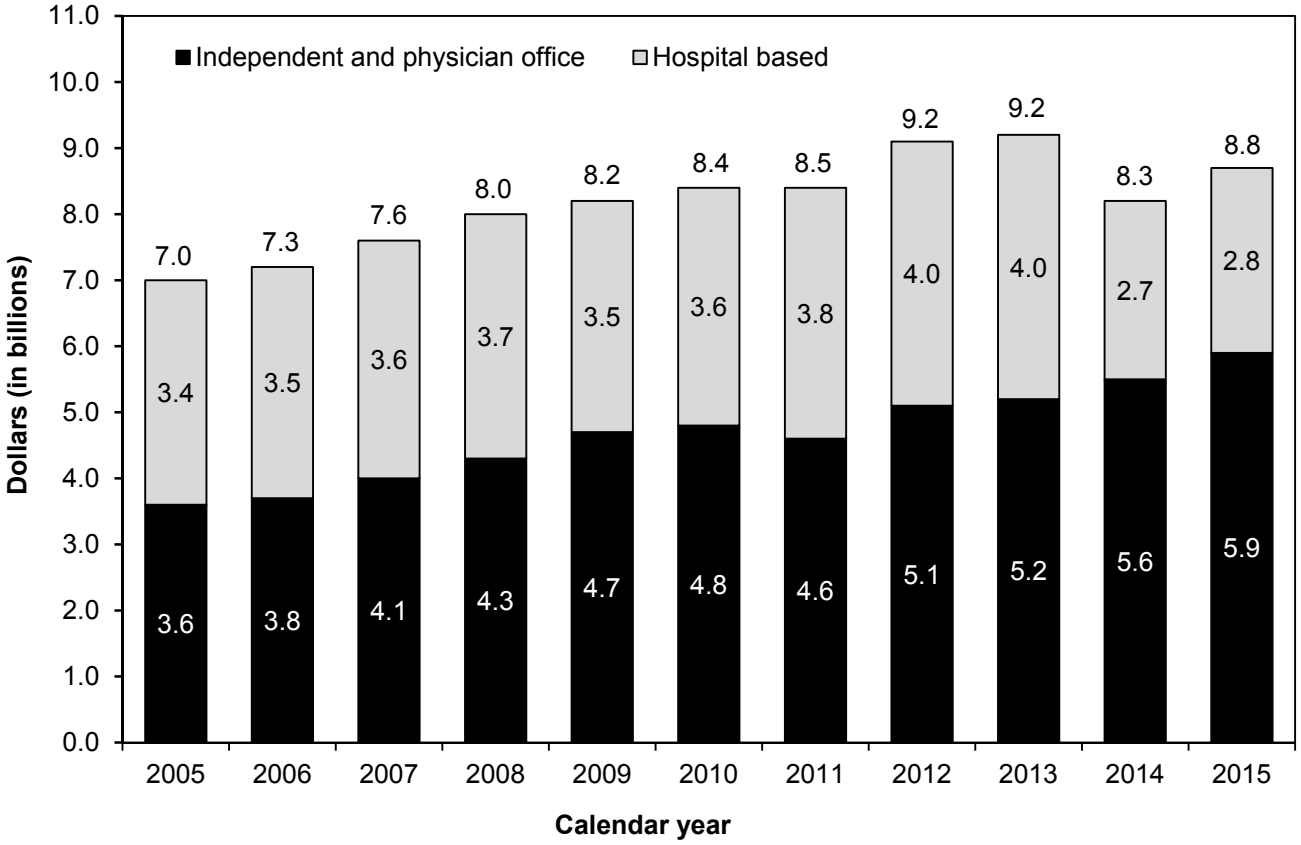


Note: Margins exclude overpayments to hospices that exceed the cap on the average annual Medicare payment per beneficiary. Margins are calculated based on Medicare-allowable, reimbursable costs.

Source: MedPAC analysis of Medicare hospice cost reports and 100 percent hospice claims standard analytic file from CMS.

- Hospices with a large share of their patients in nursing facilities have higher margins than other hospices.
- The higher profitability of hospices serving many nursing facility patients may be due to a combination of factors, such as longer lengths of stay, possible efficiencies in treating patients in a centralized location (e.g., lower mileage costs and less staff time for travel), and overlap in responsibilities between the hospice and the nursing facility.

Chart 11-19. Medicare spending for clinical laboratory services, 2005–2015



Note: Spending is for services paid under the clinical laboratory fee schedule. Hospital-based services are furnished in labs owned or operated by hospitals. Total spending appears on top of each bar. The components of each bar may not sum to the total at the top of each bar due to rounding. The spending data include only program payments; there is no beneficiary cost sharing for clinical lab services.

Source: The annual report of the Boards of Trustees of the Medicare trust funds 2016.

- Medicare spending for clinical laboratory services in all settings grew by an average of 3.4 percent per year between 2005 and 2013. This growth was primarily driven by rising volume since there were very few increases in payment rates during those years.

- Medicare spending for lab services declined by 9.0 percent in 2014 because, beginning in 2014, most lab tests provided in hospital outpatient departments are no longer paid separately under the clinical lab fee schedule. Instead, most of these tests are packaged with their associated visits or procedures under the hospital outpatient prospective payment system.

- Medicare spending for lab services increased by 5.0 percent from 2014 to 2015—5.7 percent in independent and physician-office labs and 3.6 percent in hospital-based labs. In 2015, independent and physician-office labs accounted for 68 percent of Medicare spending for all lab services; hospital-based labs accounted for the remaining 32 percent.

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